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INDEX TO CONTENTS

Value of Various Belt Fasteners and Splices..... 477
Rubber Shortage in Germany..... 481
Recent Improvements in Tire Compounds..... 482
Relation of Newspapers and Rubber Shoe Market... 484
Industrial Use of Army Gas Masks..... 485
Meeting of Rubber Division in Philadelphia..... 486
Trade Conference at Atlantic City..... 487
M. A. M. A. is Active for New Excise Tax..... 488
Chemists Differ on Patent Reform..... 489
Akron Building Activity..... 489
Activities of Rubber Association..... 490
Sprague Output Increased..... 492
Army Sale of Raw Material..... 492
Chemical Industry at Niagara Falls..... 492
Items of Interest to the Rubber Trade..... 493
Personal Notes of the Rubber Trade..... 494

MARKETS:

Manufactured Rubber Goods..... 495
Cottons, Yarns and Fabrics..... 495
Chemicals and Compounding Materials..... 496
Scrap Rubber..... 497
Crude Rubber..... 498
American Rubber Patents..... 499

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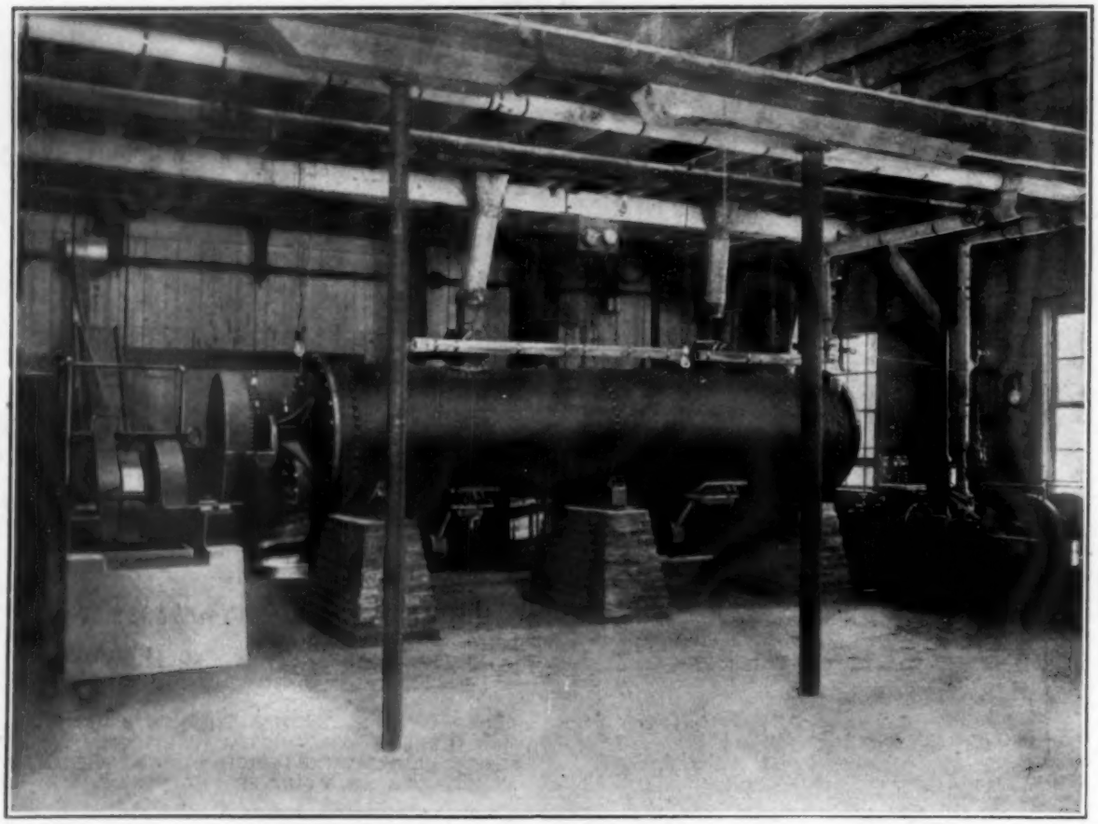

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Value of Various Belt Fasteners and Splices

By D. Repony

It is highly probable that rubber belting next to pneumatic tires, is the most important among the many thousands of all manufactured rubber articles. This article will only treat of the different belt fasteners and splices showing their comparative value in practical use.

Naturally, next to good rubber belting, a correct splice is of the utmost importance. If, as the old adage says "a chain is no stronger than its weakest link," then a belt is no stronger than its splice or fastening, and this claim is proven by the fact that about 90% of all troubles inherent to rubber belting are experienced in the joint; consequently belt trouble will be reduced to a minimum by a selection of the best type of fastener for the particular condition. Yet despite this fact it is observed in many factories that, in general, the belt fastener which is easiest to apply is preferably used merely because of its ease of application. However this practice does not pay in the end. Just as we have more than one medicine for curing various sicknesses, there is no one type of belt fastener equally serviceable for all conditions. Rubber belting which is originally made endless in the rubber factory does eliminate splice trouble to a great extent, and for a real hard drive such as generating electric current or transmitting great loads, the endless belt is the only remedy for all splice troubles. However, since endless belts can best be built in a rubber factory, it has been found impracticable to take much advantage of endless rubber belting, so after all the majority of rubber belts used require fasteners or a splice which can be made in the user's shop.

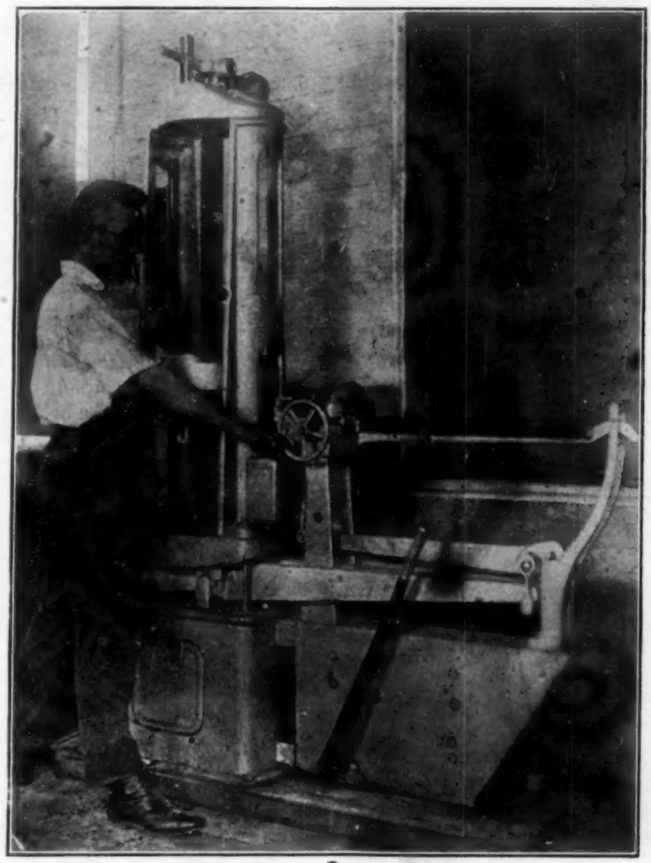


FIGURE 1. SHOWS A BELT TESTING MACHINE WITH A TESTING CAPACITY UP TO 20,000 LBS.

It is rather a complicated matter to accurately determine the comparative or real value of belt fasteners, because one type might be very satisfactory for working under certain conditions while the same type may be of little value under different belt drive conditions.

In discussing different working conditions, the following factors must be considered as essential:

1. Whether running at high speed or low speed.
2. Whether running on small or large diameter pulley.
3. Whether transmitting a heavy load, or just a small percentage of the maximum capacity of the belt.
4. Whether the belt runs in a straight line or is crossed, or whether it is worked in connection with an idler.

First of all, to determine the breaking strength of any belt fasetner, two pieces of belt should be fastened by the fastener under question and the belt should be subjected to the test shown in Figure 1.

Knowing the tensile strength of the solid belt, the value of the fasetner is obtained after the tentile strength of the fastened part has been determined. However, when a particular type of fastener shows the highest result it does not mean necessarily that such a fastener will give the best result under all conditions. For example, using an iron plate as a fastener, a plate which theoretically would be correct to use on belt which has to run on a large diameter pulley, will give a result of 100% strength, for the belt itself will break before the fastened part. However, this fastened section will give up when the belt is run on small diameter pulleys, for the deflection under the iron plate is large compared to the size of the pulley, with the result that rivets would soon work loose through the belt. In this case, applying a fastener of the clipper type would give satisfactory results despite the fact that the clipper fastener will stand only half as much pull as the wrong-sized iron plate, because in the clipper hinge the deflection is equalized in the hinge, and the pull is not strong enough to cause the clipper hooks to pull out.

Therefore next to the testing strength of the fastener it is of far more importance to be able to obtain the comparative

value of the fastener. However, unfortunately, every drive represents different conditions, and it is due to this complication that positive comparative values are difficult to obtain. Further when we consider that when the fastener is tested under practical conditions, it will take years of observation to come to any conclusion at all, it is seen that some testing device must be employed which will give a result in a comparatively quick time and although the result obtained by the short test under extraordinarily severe conditions might not be of absolute value, yet it will give very fair results.

The apparatus on which the belts were tested is shown in Figures 2 and 3. The testing device shown in Figure 2 was used to test belt fasteners or splices at a speed of 1650 R. P. M. on

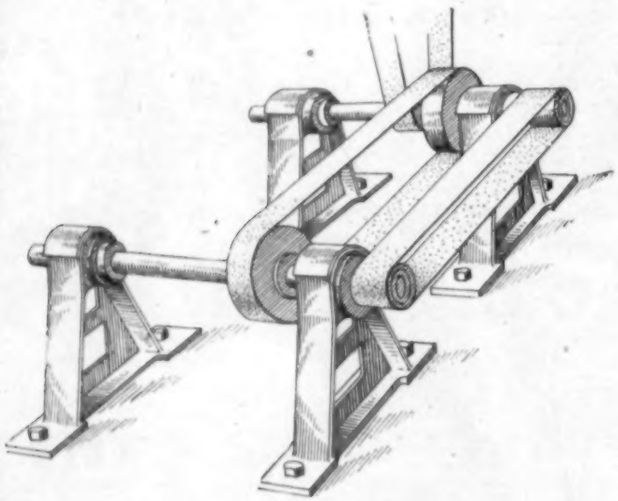


FIGURE 2

small diameter pulleys, which caused large deflections. This determined how long the fastener would stand up under such action. The testing device shown in Figure 3 was a motor and generator, so that the belt tested besides being effected by the deflection, was also used to transmit the maximum load.

For each kind of belt fastener or belt splice tested, a new length of belt cut from the same roll was used. The rubber belt for this test was 4" 5-ply Condor belt.

The following belt fasteners were tested:

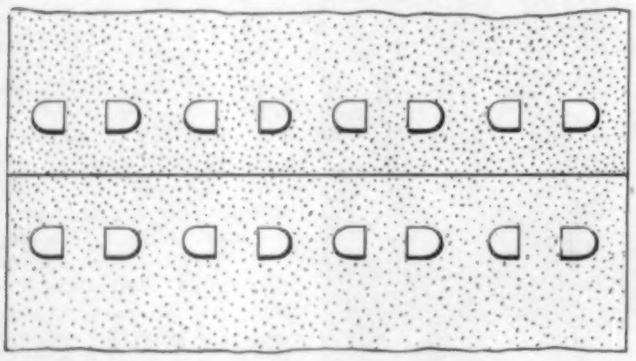


FIGURE 4. PULLEY SIDE FINISHED JOINT.

Figures 4 and 5 show Dreadnaught plates which when tested as shown in Figure 1, gave a strength of 45% when compared with the strength of the belts.

The Dreadnaught fasteners tested on the testing device as shown in Figure 2, stood up 122 hours on the 3-inch diameter pulley and 220 hours on the 6-inch diameter pulley. The break of this fastener was caused in both cases by the loosening of the rivets which worked through the belt.

The same fasteners lasted 286 hours when transmitting a load corresponding to the tensile strength of the fasteners under the conditions shown and described in Figure 3. However it must be pointed out that the Dreadnaught plates are never recommended for use on very small diameter pulleys. The writer's observation of years has been that the Dreadnaught plates, used on larger pulleys than 6-inch diameter give excellent service.

One of the great advantages lies in the split rivets used with the Dreadnaught plates as they do not cut holes through the belt, the split rivets merely separating the fibre and pushing through. By riveting, the prongs become countersunk in the

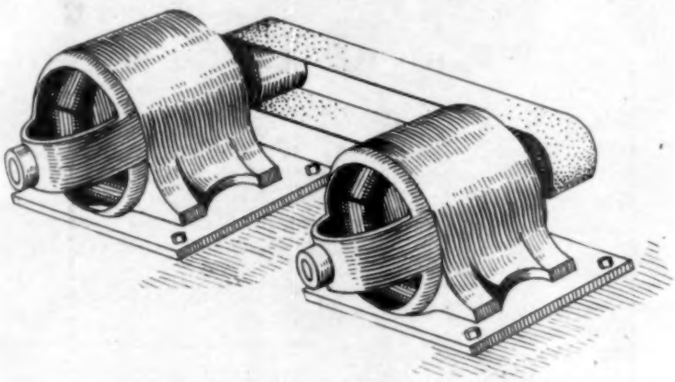


FIGURE 3

belt and the joint runs noiselessly and smoothly over the pulleys.

The Clipper splice (not shown) when tested as shown in Figure 1 gave 32% tensile strength when compared with the strength of the belt.

When tested on the testing device as is shown in Figure 2 withstood the clipper fasteners 318 hours on the 3-inch diameter pulley and 486 hours on the 6-inch diameter pulley.

The rupture of these fasteners is usually due to three different causes. On some, the individual hooks are straightened and pulled out, on others the hooks are broken in half due to the fact that the wire is subject to considerable bending during the rapid deflection upon the pulleys, and on others the hooks tear partly through the belt, causing it to become loose.

The same fasteners will withstand only 48 hours when transmitting the maximum load corresponding to the tensile strength

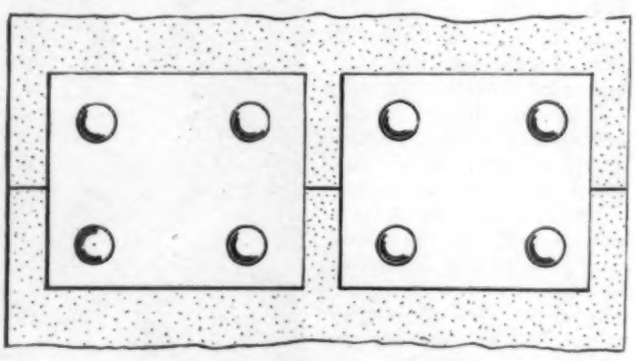


FIGURE 5. OUTSIDE FINISHED JOINT

of the fasteners, under similar conditions as described in Figure 3.

Figure 6 shows Brystoll hooks. When tested they gave a tensile strength equal to 31% of the strength of the belt.

The Byrstoll fasteners, when tested on the testing device as shown in Figure 2, withstood 52 hours on the 31 inch diameter pulley, and 82 hours on the 6-inch diameter pulley. The rupture of this fastener was due to the hooks working themselves through the belt.

The same fasteners withstood 104 hours while transmitting the maximum load, corresponding to the tensile strength of the fasteners, under the condition shown in Figure 3.

Figure 7 shows an Alligator belt fastener. When tested as shown in Figure 1, using raw hide pin, it gave 53% tensile strength, and the raw-hide pin was cut in as many small pieces as there were joints. A steel pin increased the tensile strength to 65%.

The Alligator belt fastener, tested on the testing device

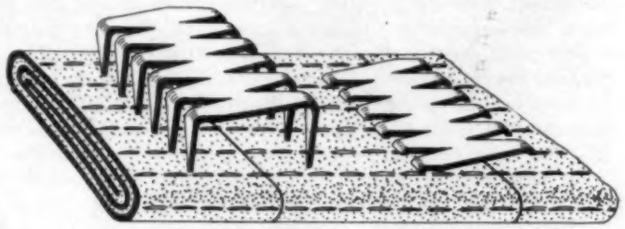


FIGURE 6. BRYSTOLL HOOKS.

shown in Figure 2, after a run of 480 hours on the 3 and 6-inch diameter pulleys showed hardly any defect, except that the steel pin and the hinges of the fasteners were about half-worn down.

Th same fastener, tested when transmitting the maximum load was less effected than the one described under former tests after running 300 hours.

Figure 8 shows the Jackson Joint belt fastener, which stood up just as well under the drive test as did the Alligator, and showed 52% tensile strength under the test as shown in Figure 1.

Figure 9 shows the Eureka steel belt coupler. This belt fastener stood up under both drive tests as well as the Alligator belt fastener or the Jackson Joint, and showed 50% tensile strength under the test as shown in Figure 1.

Summary of Tests

There is no doubt that the Alligator, the Jackson Joint and the Eureka steel belt coupler are about equally efficient, while the Jackson Joint has the added advantage that it can best be

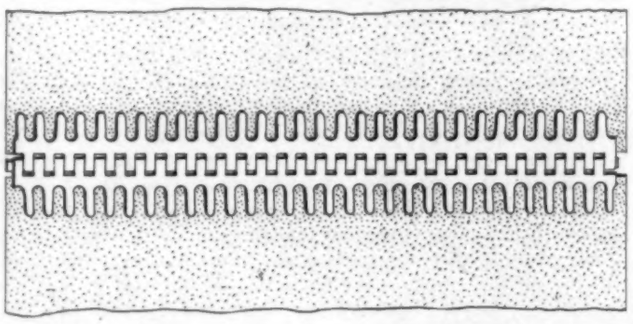


FIGURE 7. ALLIGATOR BELT FASTENER.

used in a crossed belt for it presents a smooth surface. By actual experiments the last three mentioned joints are the best for the average use, yet we hardly find in any factory that this fact is appreciated. Most factories use the most easily applied belt fastener—especially the kind of the hook type as shown in Figure 6. There is no doubt that any of these belt fasteners will stand up fairly well as long as the drive is slow and on big diameter pulleys and also when transmitting only a small percentage of the maximum load.

Practically all the well-known belt fasteners have been considered, and now we will consider belt splices.

As was pointed out in the beginning of this article, an endless belt built in a rubber factory gives far better results. However, in many cases, it is of vital importance to make a satisfactory belt splice on the premises where the belt is used; and this is especially the case in a number of states where it is prohibited by law to use a type of belt fastener which has any projections which might cause accidents. Whether or not there is any real danger to workmen from belt projections is a question, yet there is no doubt that if the law prescribed that every belt drive which is likely to cause an accident must be inclosed by a guard, such a guard will effect almost perfect protection.

However as criticism of existing laws does not alter the necessity of making a splice without any metal fasteners, we will next consider the numerous experiments and experiences observed in this field.

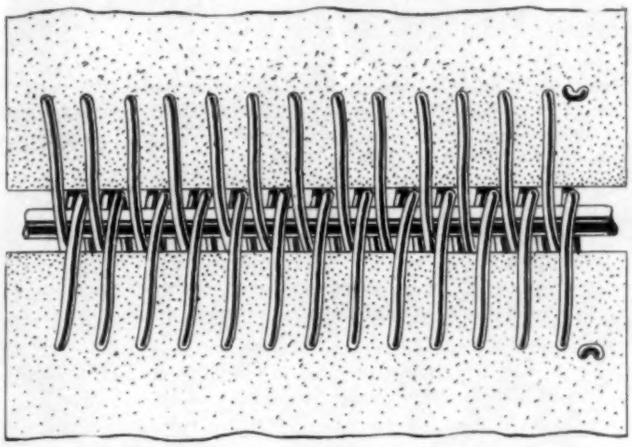


FIGURE 8. JACKSON JOINT BELT FASTENER.

Practically any inexperienced man is able to apply the various belt fasteners well enough to give fairly satisfactory results, but to make a satisfactory splice is a difficult task even for an experienced belt fixer, because unlike leather belts, the simple long skive cut cannot be made on the rubber belting. The only possible way to make a good splice is to remove a number of plies. The other difficulties are, to properly stick the splice by some suitable means. Of course this is very simple provided the belt fixer has the proper facilities to vulcanize the belt splice.

The oldest and the most common splice is the step splice as is shown in Figure 10.

The plies are pulled off step by step, each being about as long as the belt is wide, then after rubber cement has been applied and been allowed to become thoroughly dry, the splice is vulcanized under sufficient pressure.

The tensile strength of the vulcanized splice depends in the

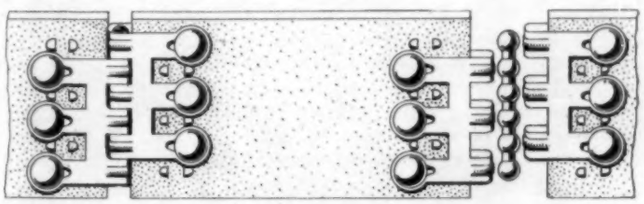


FIGURE 9. EUREKA STEEL BELT COUPLER.

first place upon the number of plies for with two plies it is not possible to obtain more than 50%, with 3 ply 67%, with 4 ply 75%, with 5 ply 80%, and so on. These figures are only correct provided the splice has been properly vulcanized so that in a tensile strength test it will break the duck in some of the step seams before it pulls loose in the steps. Although this splice gives fairly good service, in many cases it causes considerable trouble, the main disadvantage being that when the first step starts to open (caused by slippage on the pulley), because the edges of the splice came out, there is nothing to prevent the splice from being entirely pulled apart.

To overcome these difficulties numerous splices have been designed, each one having some disadvantage. For this reason they are not given here. However, the splice shown in the Figures 12 to 15, originated by the writer, is a splice which we may call the limit of possibility. The main feature of this splice is that the belt is opened and closed in the longitudinal seam, thereby taking advantage of the seam which every rubber belt has on its outside surface. Thus the outside ply is not cut through on the edges and consequently, when the cross-

FIGURE 10. STEP SPLICE.

seam on the top ply starts to open, it can open only on the short piece until it reaches the solid edge. This solid edge then prevents any further opening. How to make the splice is shown in the following illustrations.

No doubt when this splice is properly made in a rubber factory it will give excellent results.

But it is not easy to accomplish a proper splice on rubber belts in any place outside of a rubber factory, for the vulcanization of the splice is difficult without the proper facilities, and more so without a fundamental knowledge of vulcanization.

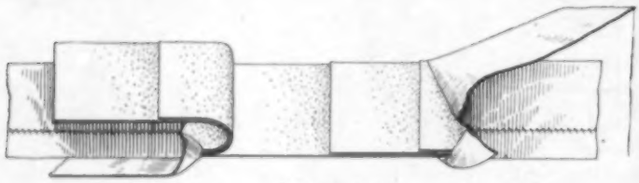


FIGURE 12

So for this reason different adhesives which do not require vulcanization were tried and the results are here given.

As all these experiments were made to determine which of these materials were the most suitable, so for this series of tests the ordinary step splice as shown in figure 10 was employed.

Rubber cement was applied and allowed to dry, and the splice was pressed between two boards in a vise. The great variation of tensile strength observed is due to two main factors: First the properties of the rubber compound resulting from the rubber cement, and second the length of the steps. If a rubber compound is used which in the unvulcanized state will properly join the plies when the steps are made about twice as long as the width of the belt, a splice can be obtained which will give a tensile strength as high as can be obtained when the

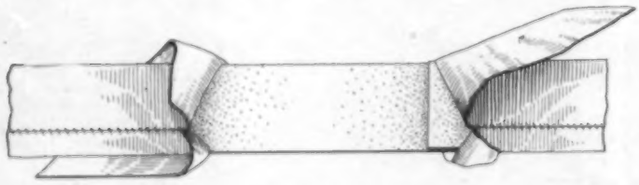


FIGURE 13

splice is vulcanized. Such splices will break in the weakest section in the duck before it will pull out in the steps.

If the rubber cement is made of a poor rubber compound, making the steps twice as long as the belt is wide, it will cause the splice to pull out in the steps, and the strength of the belt splice becomes variable in accordance with the quality of the rubber compound. By making the steps long enough, even with the poorest cement, a splice of maximum strength can be produced.

Thus with unvulcanized rubber cement just as strong a splice can be obtained (provided the steps are proportionately much longer) as by vulcanization. However, this does not mean that the unvulcanized splice will stand up anywhere near as well in actual service, as will the vulcanized. The unvulcanized splice will stand up against the hard pull in a test, merely because by the straight pull the load is evenly distributed over the area of the splice, and therefore although every square inch may hold only a few pounds, the total area of the splice as a whole will stand as much as the tensile strength, minus one ply. However it is a completely different proposition when such a belt is put into practical service, as in the latter case besides direct pull, the effect of deflection is added. Upon deflection, the rubber between the plies stretches and contracts, and we know that unvulcanized rubber possesses this property only to a very small degree. Consequently due to stretching and contraction the splice finally becomes loose and pulls apart. Such an unvulcanized rubber splice will give some service in large diameter pulleys and in slow drives and will transmit a considerable load, but on the other hand this splice will not stand up at all on a small diameter pulley, or in fast drives and therefore cannot be considered as a serviceable splice.

There were next tried substances of an adhesive nature such as a mixture of asphalt and rosin. Others were ordinary glue,

FIGURE 11. MAKING A STEPPED SPLICE ON A BIG BELT.

shellac solution, and celluloid cement. The asphalt and the rosin were melted together and the cold mixture dissolved in benzol. This was applied on the splice and allowed to become dry, then the splice was clamped. By making the splice with very long steps a fairly strong joint was obtained, but such splices do not stand up at all under driving conditions.

Trying ordinary glue (the same kind as is used for splicing leather belts) it was observed that the glue did not stick to the rubber, and to effect any joint it was found necessary to buff off all the rubber, and to make the splice on the bare duck. The wet glue does not hold very well and when it has become dry the splice is as stiff as a board, and although this splice when made in long steps will withstand almost a maximum pull, yet on a practical drive it will soon work loose under the effect of deflection.

Somewhat better results are obtained by applying shellac under the same condition, heating it, and pressing it together. Using celluloid cement a similar result was obtained as when shellac was used. Sheeted balata placing between the ply, heated and pressed gave still better results but this splice is not entirely satisfactory.

Dozens of adhesive materials might be considered for this purpose, but as those already mentioned and tested did not prove of any real value, it is evident that any other mixtures without rubber content would hardly give any better splice. In any event, with all materials which are not related to rubber it is first necessary to buff off the rubber compound from the plies, for such adhesives will not stick to the rubber. Therefore

such materials cannot be considered seriously for to buff off the rubber compound from the plies is not a easy matter without injuring the duck.

Just as no one expects that any of the above mentioned materials can be used to make a satisfactory belt, nobody expects that any of these materials can possibly be good enough for the splice, especially when the splice already represents the weakest section of the belt.

The vulcanized rubber compound in rubber belting is the

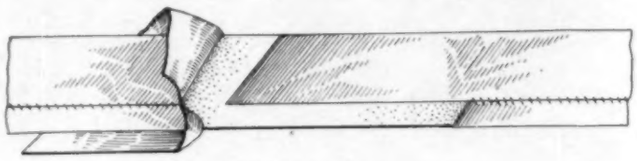


FIGURE 14

main factor in the success of rubber belt, so then how can the weakest section (the splice) be good enough, without being at least as good as the belt? Consequently it will be to the advantage of the rubber belt manufacturer to realize the importance of how to make the best splice, and not how to make the simplest and poorest.

The author's experience has been that anyone having the proper instruction will be able to make a good job by vulcanizing the belt splice, and this can be accomplished even with crude equipment. As a matter of fact, there is more experience and good judgment necessary to use any of the above mentioned adhesives than it is to vulcanize the splice. Even when such adhesives produce a perfect job, the splice cannot be compared in durability with the poorest splice obtained by vulcanization.

Two methods of vulcanization come under practical consideration, and the first one can be accomplished anywhere, because wherever a rubber belt is in service, the tools which are required for vulcanization are usually available.

After the belt plies are opened and trimmed, as shown in Figures 12 to 15, or the common stepped splice is prepared as shown in Figure 10, the plies are well cemented with the proper rubber cement (the rubber compound of which the cement is made should be of quick vulcanizing quality) and allowed to become thoroughly dry, then the splice is put together. Two ¾ inch iron platens (preferably cast iron) with planed surfaces are heated in a fire, and then allowed to cool off to a point where ordinary newspaper, when pressed on the hot platen does not become more brown colored than by scorching. Then the belt splice is placed between the hot iron plates, and pressed in vise (or clamps) and allowed to remain in this position until the iron plates become practically cold. However, the one important factor which must be borne in mind is that the iron platens must be just below the point of charing the paper brown, as otherwise the splice may become burned.

There is no doubt that the splice vulcanized by this crude method will not always be correctly vulcanized, and yet even when the splice is under or over-vulcanized, it will give bet-

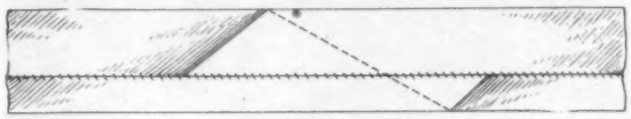


FIGURE 15

ter results than can be obtained by the use of the other adhesives mentioned.

The other methods of vulcanization are more applicable for factories using a large number of rubber belts. It will pay them to have an electrically heated vulcanizer, for by such means a correct vulcanization can be effected.

Considering the possibility of applying cold vulcanization to the splice, any one familiar with this process must admit that to do this properly a real expert is necessary, and even then the best result obtained is not as good as the average result produced by the crudest hot vulcanization.

If it is found impossible to vulcanize the splice, then an unvulcanized rubber cemented splice should be used in preference to any other adhesive.

When we consider the fact that 90 per cent. of all belt troubles is experienced in the joint, it is of vital importance to every rubber belt manufacturer to recommend only the best type of belt fastener, and moreso the right kind for the particular drive.

Rubber belt consumers should be educated and assisted in every possible way to realize the real value which is gained by vulcanization, especially as there is every reason to hope that any man once acquainted with the process of vulcanization, will find the procedure as simple as glueing a leather belt splice.

Rubber belt manufacturers must realize that satisfaction is reputation, and dissatisfaction will result from an unsuitable belt fastener or poor belt splice, and yet the real cause is seldom considered, the whole belt getting the entire blame if anything goes wrong.

Rubber Shortage in Germany

From various sources comes the information that Germany is again receiving shipments of raw rubber in small quantities. The blockade has been removed but restrictions are still existent as regards seizure of raw rubber and exports and imports are still controlled by the government. However, after considerable effort on the part of a technical committee of the rubber industry, permission has been obtained for the import of a considerable quantity of raw rubber.

The high price of this first consignment precludes low prices of manufactured rubber articles but the German people are glad to get such articles made of real rubber once again and are willing to pay the prices demanded, especially for surgical rubber goods, which are the first to get the advantage of the shipments.

Attempts are being made to protect German markets from an influx of foreign manufactured rubber goods and much thought is being given to this phase of the industry. In fact, it is urged that rubber should not be purchased in the occupied area for this would result in higher prices being obtained by the sellers. Buying in common will keep prices at a suitable level, will avoid unfair advantages and save money. It is proposed also to import manufactured articles as soon as possible.

The shortage of rubber has caused a German firm to look to slaughterhouse refuse for a substitute for rubber tubing, the proposal being to use the prepared arteries of beasts to give certain dimensions of tubing. Such arteries are treated with tannin and other materials. The resulting tubing is said to be smooth and elastic, but the *Gummi-Zeitung* looks somewhat askance at the novelty. If these animal products can be actually used in practice or whether the chemical treatment to which they are submitted will give them qualities which will endure is not said. The ordinary person knows that animal arteries, unless they are kept in a liquid, shrink up and become useless. For this reason users are warned against putting too much faith in the new product, at all events until it is proven that the treatment of the refuse produces a dependable article.

The number of German trucks recently selected from the 1250 turned over to this country since the armistice was signed also throws light on the subject of the rubber shortage in Germany. The Motor Transport Corps of the Army, in conjunction with a number of automotive organizations, is conducting the research investigations of these trucks and a large proportion are fitted with heavy steel tires.

Recent Improvements in Tire Compounds*

The world war has brought many changes in manufacturing. Most of these changes have resulted from the necessity for substituting materials for those previously used or unobtainable except at high prices during the period of the war. When raw materials can again be readily obtained, and those articles which come from overseas are selling at normal prices, many of the products which have been recently substituted may not be used. Necessity has even been the mother of invention, and this has within the past four years brought about a revolution in the product of rubber compounds, the importance of which may not yet be realized. The general public and the "man in the street" must have noticed that many solid and pneumatic tires, as also those used on carriages and bicycles, which were formerly white are now black or gray. The uninitiated may be unaware of the reason for this change, and will be surprised to learn that the material which colors the rubber is a discovery of great importance, as the addition of a certain black pigment makes the rubber for tires tougher and more durable, besides giving it greater resiliency and better road traction.

The writer does not know to whom the honor of making the discovery is due. It appears, however, that some years ago one of the leading makers of tires in Great Britain made a cord tire which was black in color, and which sold at a higher price than other tires. The patent rights for making this cord tire were disposed of to one of the large tire manufacturers in America, and English skilled artisans were sent over to assist in the making of the tires. It had been clearly demonstrated that the black cord tire gave such better road service that many automobilists were willing to pay a higher price to obtain them for their pleasure cars. The American tire manufacturers mentioned then instituted a series of experiments for the purpose of determining if the black so used in the compounds was advantageous, with the result that they found a certain percentage of this pigment made the rubber more durable, and gave to the tire great resiliency. They were not satisfied only with laboratory experiments, but a series of practical tests were decided upon. Three cars (one heavy, one medium weight, and one light) were equipped with the regular white tire and a tire in which a percentage of the black pigment was used, and these cars were run over a measured distance each day, and careful examination was made to determine the wear resulting from road friction. They also made tires half black and half white, half black and half red, and half white and half red. These tests proved that the tires in which the black pigment was used were the most durable, the white came next, and the red last. A series of tests were then made by using in the compound, in addition to the sulphur, calcined magnesia, zinc oxide and lithophone, to which was added percentages varying from 10 to 26 of the black pigment. These tests clearly indicated that approximately 10 per cent of this black pigment increased the tensile strength and durability, and accelerated the cure. Having satisfied themselves that the addition of this black pigment improved their rubber compound, they decided to use this black in all their solid and pneumatic tires. They realized, however, that as the general public had for years been accustomed to the white or red tires they might not readily accept the black, so they inaugurated an advertising campaign to educate buyers of pneumatic tires to purchase black tires. Tire manufacturers have always endevored to get some distinguishing mark or color of the side wall or the pattern on the tread by which their tires could be readily distinguished, and this pioneer concern decided on what Americans call a slogan with "Black tread tires," and for the first twelve months after changing the color they spent about a million dollars in advertising their black tires. Full-page advertisements were placed in the leading daily papers throughout the United States, setting forth the advantages of their black tire, in which they claimed that they were lighter in weight (a distinct advantage), had greater durability and better road service, and were not subject to stone bruise, etc. They also exhibited their tires in the principal towns in the United States, and demonstrated the advantages of this tire over all others. For the first few months after launching this campaign of education they were the only manufacturers of black tires in America, but their competitors were not slow in getting their technical departments at work to find out why this tire concern had adopted the black tire, with the result that all the principal tire manufacturers in the United States made experiments with a view to using this particular black pigment in their rubber compound, with the result that within four years from the first introduction of the back tread pneumatic tire in the United States, no less than 130 rubber manufacturers in the United States and Canada are now using this same black pigment in rubber compounds of various kinds.

(1) What is this black pigment?

(2) Why does it make rubber tougher and more durable, giving it greater elasticity and resiliency?

(3) What are the advantages to be gained by its use?

Carbon Gas Black

(1) The black pigment in question is a carbon gas black, and is made from natural gas by allowing the flame to impinge upon a metal surface. It is intensely black in color and of exceptional staining power, due to the carbon being in a more finely divided state than any other form of carbon, either naturally or artificially produced.

(2) It is well known that all materials used in rubber compounds must of necessity be in a fine state of division. This is one of the reasons why such materials as zinc oxide, lithophone and calcined magnesia are used. All tire manufacturers know that zinc oxide is used in the compound for toughening the rubber, and litharge for accelerating the period required in the curing, but none of these ingredients will compare with gas black for fineness of the particles forming the product. Owing to the enormous increase in the price of zinc oxide during the war there was very great inducement for the American tire manufacturers to find some other material in a finely divided state which could be substituted in part for zinc oxide.

(3) The advantages of the use of carbon gas black in rubber compounds can be summarized as follows: It effects a reduction in the time required for curing; it insures an increase in tensile strength, and also decreases the gravity as well as lowers the volume cost.

For instance, taking a standard white tread compound as follows:

	lb.
Rubber (prime ribbed smoked sheets)	40
Sulphur	2½
Calcined magnesia	2
Zince oxide	40
Lithophone	14½
Aniline oil	1
	100

The proper cure for above compound is 2 hr. at 40 lb. pressure—

Gravity of stock	1756
Tensile strength	2435 lb.
Stretch	1 in. to 5.94 in.

By substituting 10 lb. of carbon gas black for an equal weight of zinc oxide the cure was 1¼ hr. at 40 lb. pressure—

Gravity of stock	1607
Strength	2745 lb.
Stretch	1 in. to 6.55 in.

* From The India-Rubber Journal, London.

Between the years 1915 and 1918 the price of carbon gas black increased, especially in the United Kingdom, due to the excessive ocean freight rates during the greater part of the war. There was an embargo on its shipment to Great Britain, except under special government authority, so that many of the tire manufacturers in Great Britain who had been using a black pigment in their solid tires found it necessary to substitute vegetable black and what is known in America as lampblack.

It may be well here to explain the different blacks which are used in rubber compounds. They are all in a generic term characterized as lamp blacks. Lampblack, as the words indicate, was originally a smoke from a lamp, and the true definition of lampblack is smoke, and not a charcoal, which is the skeleton of a product from which volatile matter has been expelled. For instance, there are the char products of wood or bone. The charcoal of wood is the fiber skeleton of the tree from which the sap or volatile matter has been expelled by means of heat. When the products of wood or bone or any material containing carbon are calcined and the volatile matter drawn off the residue is charcoal. This may be milled fine, but it can never be in the extremely divided state of a smoke.

Three Kinds of Lampblack

There are three distinct kinds of lampblack, or so termed lampblack. (1) Black, which is made from natural gas, which is the smoke of the flame; this black being in the most finely divided state, and is absolutely free from oil or grease. (2) The black smoke of any product rich in carbon; this when made from tar oils is termed in England vegetable black, which is a misnomer, for it is not made from a vegetable matter. This kind of lampblack (or so-called vegetable black) can also be made from resin, fish oils, etc., and it is produced in a specially constructed furnace, in which only sufficient air is admitted to allow of partial combustion, the black smoke passing from the furnace into condensing chambers, in which it is deposited. All this kind of lampblack contains a certain percentage of empyrematic oil, which is not perfectly consumed in the furnace. All of these blacks are gray in color compared with the carbon black, and lack strength and staining power. No. 3 is not a true form of lampblack, and should be properly classified as a charcoal. This black is similar to that which is sold in the English market as Swedish black, and is produced by burning the bark of the birch tree. A similar charcoal is produced as a by-product in the manufacture of wood pulp. Both of these charcoals are sold in England as lampblack.

These lampblacks and charcoals have entirely distinctive physical properties. No. 1 is the most perfect form of amorphous carbon, the particles forming the black being in a most finely divided state, and owing to it being made from gas is free from oil or grease. No. 2 is of a foliated formation, and is not in the finely divided state of a gas smoke. It is liable to contain a considerable quantity of oil, which binds the particles together, so that the color cannot be as well diffused as that of a perfectly dry black. No. 3 is a grain formation, and being a charcoal is not of any value in improving a rubber compound.

Makers of tires and inner tubes have used as a colorant crimson antimony or oxide of iron. Neither of these products is in so finely divided a state as carbon gas black, and the writer is of opinion that this red has been used more as a distinguishing feature than to improve the durability or add to the elasticity of the rubber. In fact, he is inclined to believe that in trying to get a distinguishing color by the use of red no improvement has been effected in the rubber. In this connection it may be well to state that some of the manufacturers in the United States who made red tread tires have now adopted the black ones.

This revolution in rubber compounds which has taken place during the last five years is not due to any fashion. It is consequent upon an actual improvement in the process of compounding rubber, and has unquestionably come to stay. If only one or two of the manufacturers had used carbon gas black to differentiate their tires from the make of others, it might be that this was its only value, but when we find that in the United States and Canada alone over 130 manufacturers are now using this black, and that many in England and France are also doing so, it is a conclusive evidence that rubber manufacturers generally have found economy and other advantages in using this black.

It may be of interest to state what has been done to overcome the flying of the black. The large rubber manufacturers in the United States have installed separate compounding rooms in which the different materials of their compounds are mixed before milling. The compound mixing mills are hooded and a suction fan is employed to take away any black which might otherwise fly through the mill.

The carbon gas black now shipped to Great Britain is often packed in paper bags containing 12½ lb., and 12 of these bags are packed in a wooden case containing 150 lb. of black in all. When first used in America a small hole was made in the bottom of the bag so that the black might flow more readily through the mouth of the sack, but this method of emptying the bag caused a considerable amount of black to fly. Early in 1915 several rubber manufacturers who were using this black put in different devices for compressing the black. One of the large makers installed hydraulic machinery which pressed the black into blocks, but further experiments proved that pressing the black to this extent deterioriated its working qualities when used, and it has now been demonstrated that blacks should be compressed to too great an extent for the use in compound.

A new process has recently been invented by the Columbian Carbon Company, of the U. S. A. (the largest makers of carbon gas black) whereby the material may be used without inconvenience from dusty particles. By this patented process the air is eliminated from the black uniformly through the mass, overcoming the flying of the black and at the same time giving to the rubber manufacturer a black which will not dust when mixed with the other ingredients or during the process of milling. None of this compressed black has yet been shipped to Europe, as there has been considerable difficulty in installing the process in the different works of the Columbian Company, due to the difficulty of obtaining constructional material. It is expected that by the end of this year this black will be shipped in the compressed form to the United Kingdom, which will not only result in freight saving, but will admit of more general use of the black by all manufacturers of india-rubber goods.

During the war period we know little of what Germany has done, but we do know that they have been short of india-rubber, and it is interesting to find that in the tires on the aeroplanes which were captured and are now exhibited throughout England that black has been used in the compound. This can be observed by anyone who will visit St. James's Park, London, where will be seen an aeroplane which has five landing wheels equipped with rubber tires, all of which are black, proving the Germans have not been behindhand in finding that the use of the black in the rubber tires gave lightness with strength and durability.

The one point which the writer would desire to emphasize is that bearing upon the economy which would result to the British Empire by the manufacture to the fullest possible extent of all articles which can be produced in Great Britain, and the use of carbon gas black, with which this article has been dealing, will place British manufacturers in such a position to produce the very best tires, and will enable them to meet foreign competition, and so tend to equalize the great changed balances which at the present time are so exercising the minds of Statesmen.

It is only natural that rubber manufacturers in America should have been able to take advantage of this discovery as the raw material is only obtainable in the United States but British manufacturers should now prepare to use this material to meet the competition of foreign tire manufacturers.

Relation of Newspapers and Rubber Shoe Market

A report of an investigation into the merchandising conditions concerning the sale of rubber overshoes and the relation of certain brands to markets has just been made by the Bureau of Advertising, American Newspaper Publishers' Association.

A questionnaire was designed by the Bureau especially to ascertain whether or not people ask for rubbers under trade mark names and whether dealers are receptive to suggestions for improving sales by advertising coupled with intensive merchandising. The questions were prepared after consultation with leading factors in the rubber overshoe industry and were in turn taken by newspaper investigators to retailers and jobbers. An abstract of the report follows :

The Bureau of Advertising does not, however, submit its report as an analytical document, but rather as a dealers' Symposium sufficiently comprehensive to disclose some interesting tendencies and some definite trade conditions.

Six Leading Brands

There are six brands of rubbers that dealers report as on sale under brand names and to a certain degree known to the public. The majority opinion indicates two of these brands as ranking leaders, although in individual cities there is a marked fluctuaton in public and dealer preference.

In Canada the same relative distribution exists, but a different set of brand names—the brands of Canadian companies appear in the reports.

The majority of dealers say that women "do not shop around" for rubbers as they do other lines of merchandise and some of the few dealers who contend that women do, say that shopping is entirely for low prices and not for particular brands or for good qualities.

It is interesting to note, in this connection, that several of the dealers say that while men do ask for rubbers by brand names, women seldom do. This is a rather curious sidelight, because the woman and not the man is usually supposed to be most susceptible to an advertising appeal. The reply suggests itself that probably men know certain rubber brand names in connection with automobile tires and associate these names with other lines of rubber goods.

Dealers say that bad weather is about the only selling argument for rubber overshoes, and most of them are sceptical as to their own ability to sell rubbers in clear weather through a planned campaign and a definite argument.

The Dealers' View

Very few dealers think they could increase the sale of rubbers by urging their purchase when a new pair of shoes is bought.

About the same number believe that sales could be increased by a line of selling talks to the effect that rubbers are an insurance against wet feet.

A fair percentage of dealers, especially those handling a fancy line of footwear say there is a chance of selling a pair of rubbers when a new pair of shoes is sold by calling the customer's attention to the advantages of protecting the footwear and that educational work in this direction would pay.

Very few dealers seem to think that the sale of rubbers could be increased by urging the sale of two pairs at a time.

Dealers are almost a unit in saying that they control the sale and not the manufacturer—in other words, if a customer does call for a pair of rubbers under a brand name, the dealer has little or no difficulty in inducing the customer to purchase another brand if he desires to do so.

As a rule dealers are very frank in their criticisms of the rubber overshoe industry. Many of them say that they only carry rubber overshoes as an accommodation to the public and that they do not consider this line of merchandise a profitable part of their business. They do not make any displays of rubbers, they do not show them. They merely carry them as a drug store carries postage stamps.

One of the dealers, discussing the general merchandising situation, said: "Why should we make an effort to push manufacturers' goods all the year round, when they do not make any effort to push them? Why should we advertise rubbers in the summer time when manufacturers won't advertise them all the year round? It is up to the manufacturers to take the leadership if they want our co-operation."

One is almost tempted to ask what would the sales of rubbers amount to if the dealers really tried to sell them and the manufacturers stood behind them with an aggressive and educational policy. The possibilities for increase are big.

Dealers indicate their interest in advertising and their willingness to take hold of a newspaper advertiser's brand of rubbers with the proviso that quality and price are right.

Some interesting suggestions are made by the dealers as to the improvement of rubbers. There seems to be general complaint about badly fitting heels, and a belief that if manufacturers would improve the rubbers at the point where the top of the rubber touches the heel the improvement would be greatly appreciated by customers.

Some Good Suggestions

Dealers also say that rubber manufacturers do not keep up with the new shoe styles, and that there are possibilities in this direction which are being overlooked.

Sales of rubbers form a very small percentage of the average shoe store sales at the present time. Some put it as low as one per cent, but the more general average is around 5 to 10 per cent.

Locality has a great deal to do with the dealer's answer as to whether or not rubber sales are increasing or diminishing.

The survey indicates clearly that the rubber overshoe business is a sectional business. In some parts of the country rubbers are sold only during the rainy season. In other parts of the country there is little or no sale at any season and other places there is a reasonable demand all year round—but varying with the season.

Link Advertising to Sales Work

It is clear from this investigation that advertising and merchandising plans to succeed must lock very closely with plans for dealer interest, dealer education and dealer good-will.

This is in itself an argument for newspaper advertising. The co-operation of the dealer can be secured through advertising in the newspaper of his city which will center the maximum demand at his store. He can be induced to work with this advertising and to try out some of the new merchandising suggestions which seem to be so badly needed.

The Bureau attaches some facts concerning newspapers which may be of interest to manufacturers in considering this general advertising problem, but who do not visualize the national scope of the daily newspapers.

In the United States there are 2,151 daily newspapers published in the English language.

Some Newspaper Facts

These have a combined circulation of 27,975,127. Of the 2,151 there are 503 published in the morning and 1,648 published in the evening, while 505 have Sunday editions.

The combined minimum general advertising rate of these 2,151 daily newspapers is $07.03 per agate line, or $938.42 per column inch. The total rate for the morning newspaper is $22.73 per agate line, or $318.22 per column inch, and the total rate for the evening newspaper is $44.29 per agate line or $620.06 per column inch.

The total circulation of the 505 Sunday newspapers is 16,617,717. The combined minimum general advertising rate of these Sunday newspapers is $30.07 per agate line. (Figures as of July 1, 1919.)

Newspaper rates per line per thousand circulation are the

(*Continued on next page*)

lowest of all printed mediums. They vary in cost from one-half to one-fifth of the cost of other kinds of advertising.

National or general advertisers are using the newspapers at the basis of more than $100,000,000 per year.

But the newspaper is especially the medium for localized effort and for this reason its value to an industry surrounded by such peculiar conditions as the manufacture and sale of rubber overshoes is self-evident.

Its aid to the manufacturer who wants to concentrate in logical markets and to work with the dealers is invaluable.

Industrial Use of Army Gas Masks

The large surplus of Army gas masks on hand at the present time has resulted in a number of investigations by the Gas Mask Research Section of the Army in an endeavor to learn to what extent the masks may be used to counteract the various harmful vapors to which workmen in a number of industries expose themselves.

The War Department had almost 6,000,000 masks manufactured and of this amount over one-half are still on hand. Less than 5000 have been sold in this country for industrial purposes and the increasing use of the masks is expected to show results in a large demand in the future. Among the purchasers are factories making rubber products, ink, paper, explosives, chemicals, fertilizer, woolen goods and oil refineries, bleacheries, copper mines, fire departments and laboratories. The war department demands that purchasers state the use to which the mask is to be put so that the buyer can be informed as to whether the mask is satisfactory.

To understand the prospects of the gas mask in industry it is necessary to recall the composition of the army mask. The idea seems to be prevalent that the army gas mask is a protection against any kind of smoke or gas. As a matter of fact, the army gask mask was constructed with one idea of combating the poison gases of the Germans.

The mask consists of a face piece of rubber and cloth, containing eye pieces, and connected by a flexible rubber tube to a canister supported in a knapsack hung from the neck. The canister contains charcoal and soda lime which filter out the poisonous gas breathed into the tube.

The content of the canister protects against the following gases if the gases do not exceed one or two per cent of the air: sulphur dioxide, hydrogen sulphide, chlorine, carbon bisulphide, nitrogen peroxide, aniline vapor, benzyl bromide, benzyl chloride, chloyacetone, chloriperin, hydrogen chloride, phosgene, sulphur chlorides, xylyl bromide, stannic chloride, titanium tetrachloride, silicon tetrachloride, hydrogen cyanide, benzol, gasoline vapor, and carbon tetrachloride.

The army masks were designed expressly to protect against gases, scattered in the open air. Therefore they cannot be relied upon to furnish protection for any length of time against fumes stronger than the two per cent mentioned. Other canisters could, of course, be made to protect against heavier and different fumes for industries and fire departments. The war department made some canisters for combating a single, concentrated gas, but in the main the army preferred to use a single mask that would protect against any gas that the Germans might send over.

Must Have Twelve Per Cent Oxygen

In considering the use of gas masks for protection against various gases it must be emphasized that they should never be used in atmospheres containing less than 12 per cent oxygen by volume. In such atmospheres an air helmet or a self-contained breathing appartus containing an oxygen supply must be used. Neither does the army gas mask afford complete protection against very high concentration of toxic or irritating gases such as may be found in closed tanks or towers containing volatile liquids or in small closed rooms where a considerable quantity of gas has been suddenly released. In general, the gas mask is limited to concentrations not exceeding one to five per cent, depending on the kind of gas, the absorbent used, and the size of the canister.

The chemical filling of the standard army canister, Type H, consists of 42 cu. in. of an intimate mixture of 60 per cent charcoal and 40 per cent "purple" soda lime (by volume). The size of granules is between 8 and 14 mesh. This mixture combines maximum protection as nearly as possible against both acid gases and those removed by physical absorption only. For special gases the filling may be all charcoal, all soda lime, or some other specific absorbent. When protection against irritating or toxic smokes is also required two cotton wadding pads are placed in the canister at one-third and two-thirds distance from the bottom, respectively.

It is of course obvious that the standard mixture does not furnish the maximum protection against such gases as are absorbed by one component only, as for example, carbon tetrachloride or benzol which is absorbed by the charcoal only or sulfur dioxide which is taken up principally by the soda lime. Hence, when masks are required for specific gases or when high concentrations of a gas absorbable by one component only is to be encountered, it becomes advisable to fill the entire canister with either charcoal or soda lime.

The standard 60 to 40 per cent mixture filling is recommended for: chlorine, phosgene, tetrachlorides of tin, silicon and titanium, arsenic tin chloride, xylyl and benzyl bromides, chlor- and brom-acetone, chlorpicrin, dimethyl sulphate, perchlormethylchloroformate and nitrogen peroxide.

The all-charcoal filling is recommended for: gasoline vapor, benzol, carbon bisulfide, carbon tetrachloride, cyanogen bromide and similar vapors which are not acted on by soda lime.

The all-soda lime filling is recommended for: sulfur dioxide, carbon dioxide, hydrocyanic acid gas, hydrogen sulfide, hydrogen chloride and other acid gases.

When smoke particles, such as the hydrolysis products of stannic chloride, or solid particles, as arsenic trioxide, are encountered, the canister should contain at least two cotton wadding pads or other filter material. Ammonia is not completely absorbed by the standard filling. For this purpose copper sulfate on pumice is recommended.

Carbon monoxide, natural gas, artificial illuminating gas, coke oven gas, blast furnace gas, and the difficulty condensable gases, such as oxygen, hydrogen, nitrogen, methane, etc., are not removed by the canister.

The standard canister containing filter pads gives good protection against smoke from wood, rags, tar, sulphur, and other combustibles. Tests have been made in which men wearing standard army masks remained in dense smoke from burning wood and wet straw for a period of 20 minutes without discomfort. Care, however, must be observed that such combustion smoke contains no appreciable quantities of carbon monoxide, for which the mask provides no protection, and which would not be detected by the wearer before being overcome. For this reason the standard army gas mask with charcoal and soda lime canister containing filter pads should be used with some caution by firemen in entering burning buildings; in exceptional cases, dangerous quantities of carbon monoxide may be present.

The army mask, however, has been used successfully in fighting forest fires. It can probably be used safely in similar smoke occurring in the open air, or for a very short period of time in buildings where the smoke is diluted by circulation of air.

Meeting of Rubber Division of American Chemical Society in Philadelphia

An Interesting Meeting was Held Last Week at Which a Number of Valuable Papers Were Read—New Chairman for the Rubber Division was Elected

The fifty-eighth annual meeting of the American Chemical Society took place at the Bellevue-Stratford Hotel, Philadelphia, last week, September 2 to 6. The attendance was very large and the number of papers read were of an exceedingly interesting and instructive nature.

This year's meeting was called the Peace Meeting, being the first since peace was declared and a large number of the papers read dealt with problems solved during the war and presented here for the first time. Besides the reading of papers in the various divisions of the society, other attractions made the meeting a success, among which were automobile rides to chemical plants and other points of interest, theatre parties and an excursion on Saturday to industrial plants on the Delaware water front, including Hog Island and several other shipbuilding yards.

The general program consisted of the council meeting and dinner to the council on Tuesday. On Wednesday morning the general meeting opened with an address of welcome by J. S. McLaughlin, Director of Supplies for Philadelphia, and a response by W. H. Nichols, president American Chemical Society. Newton D. Baker, Secretary of War, then spoke on "Chemistry in Warfare," in which he complimented American chemists on the part they played in the winning of the World War. Rear Admiral Ralph Earle, Chief of the Bureau of Ordnance, U. S. N., also spoke on "Chemistry and the Navy." That afternoon was taken up by general talks on chemical subjects and the evening was devoted to a smoker.

The balance of the meeting was devoted to divisional meetings which lasted from 9.30 a.m. to late in the afternoon on Thursday and Friday. The banquet was held on Friday evening, with a number of prominent speakers on the list.

George D. Rosengarten and Dr. Harlan S. Miner, Presiding Officers of the Philadelphia section of the Chemists' Convention, in the back row. Front row, Sec'y Baker, Dr. Wm. H. Nichols, President of the American Chemical Society, and Rear Admiral Ralph Earle, Chief of Bureau of Ordnance, U. S. Navy. (c) *Ledger Photo Service.*

JOHN B. TUTTLE

Rubber Division Meeting

The attendance at the meeting of the Rubber Division was very large and Chairman Tuttle at times had difficulty in making himself heard, due to the large crowd. The papers which were read were full of interest, as was evidenced by the lively discussion which followed each reading. Many of the papers were accompanied by charts and others by lantern slides, to bring out points which could best be shown by illustrations.

The meeting began with a report of the Executive Committee and the report of the secretary. Then the various papers were read. Eighteen papers were listed to be read and only fifteen of those on the program were given, with the addition of the last paper on the accompanying list, which was read at the request of Mr. Tuttle. This paper on Carbon Black was originally presented by Mr. Perrott at the In-

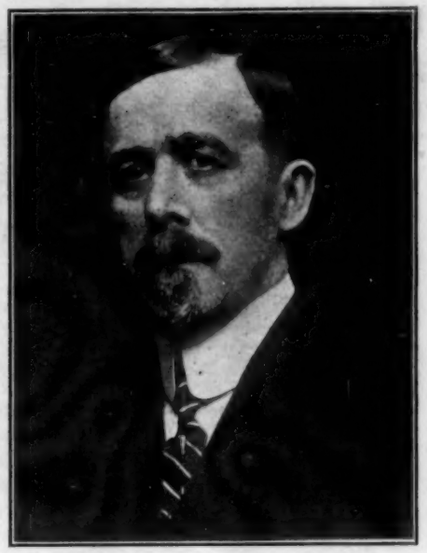
A. H. SMITH

List of Papers Read at Rubber Section

"A New Method for the Determination of Sulphur in Rubber Mixtures."	By G. D. Kratz, A. H. Flower and Cole Coolidge.
"The Extraction of Rubber Goods."	By S. W. Epstein and B. L. Gongo.
"The Theory of Balloon Fabric Protection."	By John B. Tuttle.
"The Expansion of Rubber Compounds."	By C. W. Sanderson.
"Volume Increase of Compounded Rubber under Strain."	By H. F. Schippel.
"The Determination of Cellulose in Rubber Goods."	By S. W. Epstein and R. L. Moore.
"The Variability of Crude Rubber."	By John B. Tuttle.
"Symposium on the Action of Accelerators During Vulcanization."	Led by J. H. Scott.
"The Action of Certain Organic Accelerators in the Vulcanization of Rubber."	By G. D. Kratz, A. H. Fowler and Cole Coolidge.
"Reactions of Accelerators During Vulcanization."	By C. W. Bedford and Winfield Scott.
"The Effect of Organic Acceleration on the Vulcanization Coefficient."	By D. F. Cranor.
"Some Methods of Testing the Hardness of Vulcanized Rubber."	By H. P. Gurney.
"Symposium on the Testing of Pigments."	Led by Geo. Oenslager. Contributions from M. M. Harrison and M. M. Kahn.
"The Manufacture and Use of Crimson Antimony."	By J. M. Bierer.
"Research on Zinc Products for the Rubber Industry."	By P. R. Croll and I. R. Ruby.
"Carbon Black—Its Properties and Uses."	By C. St. J. Perrott.

DR. GEORGE D. ROSENGARTEN

Chairman of Executive Committee of Philadelphia Local Committee, American Chemical Society.



H. S. MINER

Executive Chairman of Delaware Section, American Chemical Society.

dustrial Chemistry Section, and due to its interesting features for the rubber chemist, it was obtained for a second reading.

In addition to the papers listed above, the following were on the program, but were omitted for various reasons:

"The Effect of Compounding Ingredients on the Physical Properties of Rubber," by C. Olin North.

"Laboratory Aprons," by C. P. Fox.

"The Value of a Library to the Rubber Laboratory," by Dr. H. E. Simmons.

Following the reading of the papers, the secretary read the report of the Fruit Jar Ring Committee, of which L. J. Plumb is chairman. The report was accepted. The last item on the program was the election of officers for the ensuing year. Following is the result of the election:

Chairman: W. K. Lewis.
Secretary: G. D. Kratz.
Secretary: A. H. Smith.
Executive Committee: Messrs. Bierer, Evans, Sanderson, Scott and Oenslager.

No complete list of all in attendance at the Rubber Division meeting is obtainable at the present writing and the accompanying list is only a fraction of those in actual attendance. Secretary Smith will issue a more complete list after his records are in shape. The list follows:

John B. Tuttle	Firestone Tire & Rubber Co., Akron, O.
M. H. Daniels	Republic Rubber Co., Youngstown, O.
R. C. Hartong	The Goodyear Tire & Rubber Co., Akron, O.
G. L. Davies	The Goodyear Tire & Rubber Co., Akron, O.
G. D. Kratz	The Falls Rubber Co., Cuyahoga Falls, O.
J. M. Ball	Manhattan Rubber Mfg. Co., Passaic, N. J.
John Vetter	Howe Rubber Co., New Brunswick, N. J.
Robert S. Posmontier	Quaker City Rubber Co., Philadelphia, Pa.
C. Olin North	Goodyear Tire & Rubber Co., Akron, O.
H. B. Pushee	General Tire & Rubber Co., Akron, O.
James Driscoll	Hedgman Rubber Co., Tuckahoe, N. Y.
S. W. Epstein	Bureau of Standards, Washington, D. C.
C. W. Bedford	Goodyear Tire & Rubber Co., Akron, O.
George T. Cottle	A. A. Wire Co., Newark.
L. E. Weber	Boston, Mass.
R. R. McClure	Penna Rubber Co., Jeannette, Pa.
Webster Norris	*India Rubber World*, New York
Deane Burns	Harshaw, Fuller & Goodwin Co., Elyria, N. Y.
Frank B. Smith	Braender Rubber & Tire Co., Rutherford, N. J.
G. H. Savage	A. A. Wire Co., Inc., Newark, N. J.
H. G. Upton	37 Petrie St., Bridgeport, Conn.
C. F. Dwine	Habirshaw Electric Cable Co., Yonkers.
R. L. Moore	Bureau of Standards, Washington, D. C.
R. B. Arnold	4½ North 11th St., Richmond, Va.
M. M. Kahn	Kelly-Springfield Tire Co., Akron, O.
J. P. Millwood	156 Van Houten Ave., Passaic, N. J.
Arthur F. Brown	Eagle Picher Lead Co., 101 Park Ave., New York.
K. J. Soule	312 Harrison St., Passaic, N. J.
Jos. E. Chapin	2016 Shunk St., Philadelphia, Pa.
Ivan D. Hagar	160 Front Street, New York
F. F. Slack	Miller Rubber Co., Akron, O.
E. W. Oldham	Firestone Tire & Rubber Co., Akron, O.
K. D. Smith	Miller Rubber Co., Akron, O.
Alden Scott Boyer	Boyer Chemical Laboratories Co., Chicago, Ill.
W. H. Cope	Lee Tire and Rubber Co., Conshohocken, Pa.
Robert S. Scull	10 S. Fifth St., Reading, Pa.
N. A. Shepard	Firestone Tire & Rubber Co., Akron, O.
H. L. Fisher	B. F. Goodrich Co., Akron, O.
John M. Bierer	Boston Woven Hose & Rubber Co.
John R. MacGregor	Eagle Picher Lead Co., 101 Park Ave., New York.
C. R. Boggs	Simplex Wire & Cable Co.
G. St. J. Perrott	U. S. Bureau of Mines
Frank G. Breyer	New Jersey Zinc Co.
Peter P. Pinto	*The Rubber Age and Tire News*, New York.
H. E. Simmons	Akron University, Akron, O.
John Young	Firestone Tire & Rubber Co., Akron, O.
A. H. Smith	Goodyear Tire & Rubber Co., Akron, O.
L. J. Plumb	U. S. Rubber Reclaiming Co.
C. W. Sanderson	Ames-Holden, Macready Co., Montreal.
J. H. Scott	Plexus Tire & Rubber Co., Philadelphia.
C. W. Bedford	
Winfield Scott	
D. F. Cranor	
H. P. Gurney	

Trade Conference at Atlantic City

Twenty thousand business men have been invited by the executive committee of the International Trade Conference to attend the meeting called by the Chamber of Commerce of the United States at Atlantic City, September 31-October 3, for the purpose of conferring with delegates from England, France, Italy and Belgium about plans for the restoration of commerce.

The International Trade Conference gives promise of being the most important gathering of the kind ever undertaken, and as every state in the Union is a factor in the trade of the world, the entire country will be interested in the deliberations and the results. The aim of the Chamber of Commerce of the United States in bringing about the Atlantic City convention is to have focused on various phases of commerce the best business thought of the age, to the end that the channels of the world's commerce will be opened, production stimulated and demand supplied.

While the program has not been completed, the committee in charge of this feature, under the chairmanship of John H. Fahey of Boston, has laid down the general lines on which the conference will be held. The proceedings will be divided and time alloted in accordance with the importance of the various subjects to be brought up, numbering about twenty in all.

Relative to the discussion of a subject, fuel supply, for instance, there will be an American committee including producers, shippers, economists and business men, who will meet from day to day with the foreign delegates. By this method Italy, for example, will have every opportunity to present its needs in conference with the committee on fuel supply, which from day to day will meet with the representatives of other countries. The composition of the committees appointed to deal with each of the main subjects to come up will be such as to insure that the best authorities in the United States will be at the disposition of the foreign delegates.

Following an examination in detail of such questions, the conclusions reached will be reported to the conference as a whole. In this way the representatives of each country will have an exceptional opuortunity to present their views, and the information they bring with them, in the most effective way, making it possible for the open sessions to be devoted to discussions and addresses of a general character.

There will be from five to seven delegates from England, France, Italy and Belgium, and in addition a force of secretaries, making a party of fifty. It is expected that not fewer than 3000 American business men will meet them at Atlantic City.

After the conference the foreign delegates will make a short tour, visiting leading industrial centers, as guests of the Chamber of Commerce of the United States.

Novel Method of Announcement

(Special Akron Correspondence.)

R. P. McElrath of Cleveland, president of the McElrath Tire & Rubber Co., chose a spectacular way to inform Ravenna citizens that their city had been selected as the site of the factory which the company plans to build at once. He flew over the town in an airplane and dropped a note containing this information on the site offered the company by the Ravenna Chamber of Commerce.

M. A. M. A. is Active for New Excise Tax

The Motor and Accessory Manufacturers' Association Are Aiding Government Officials in Attempt to Clarify Various Portions of the Excise Tax Law on Tires, Tubes, Parts and Accessories

Drastic changes in the administration of the excise tax on the automotive industry are now being considered by the Bureau of Internal Revenue of the Treasury Department, following a series of conferences between the tax officials and representatives of the National Automobile Chamber of Commerce and The Motor and Accessory Manufacturers' Association.

The first of these changes will be made public shortly in the form of an important treasury decision concerning the method of collecting the excise tax on parts and accessories. (This probably is the ruling announced by The Rubber Association of America on another page of this issue.)

At a series of conferences held in Washington recently with Deputy Commissioner James M. Baker of the Bureau of Internal Revenue, the acting solicitor of the Bureau, and their associates, arrangements were made by representatives of the National Automobile Chamber of Commerce and the Motor and Accessory Manufacturers' Association for a permanent program of co-operation with the Treasury Department in the matter of excise tax regulations.

The conference was called by the Deputy Commissioner of Internal Revenue preparatory to making a comprehensive review of the entire excise tax on the automotive industry—that is, of regulations No. 47 in so far as they relate to the provisions of Section 900, sub-division, 1, 2, 3, of the Revenue Act of 1918, covering the excise tax on automobile trucks, automobile wagons, and other automobiles, tires, tubes, parts and accessories.

The Deputy Commissioner advised us that in making this review it seems not only desirable but essential to have the co-operation and advice of the organizations representing the entire industry.

The National Automobile Chamber of Commerce was represented by Robert A. Brannigan; The Motor and Accessory Manufacturers' Association by its general manager, M. L. Heminway, and his assistant, M. Lincoln Schuster.

It was agreed that in the past many of the excise tax regulations were contrary to trade practice and therefore confusing and difficult, and sometimes impossible to administer efficiently and smoothly.

The tax officials expressed a desire to remedy this situation and bring about closer co-operation with the automotive industry. The following plan was therefore agreed upon:

Hereafter, before an important ruling is issued, or a new decision made, it will be taken up with the industry as a whole, as represented by the National Automobile Chamber of Commerce and The Motor and Accessory Manufacturers' Association, and such other organizations as may be affected in particular cases, to make certain that the proposed rulings are consistent with trade practice and the most equitable and efficient regulations that can be arrived at under the provisions of the law.

By a series of stated conferences between the tax officials in Washington and the representatives of the industry, the confusion and friction which has accompanied administration of the excise tax in the past will be reduced to an absolute minimum.

In discussing this new arrangement, M. L. Heminway, general manager of The Motor and Accessory Manufacturers' Association, said:

"At the first conference held last week certain changes of vital and basic importance were discussed and it is believed that within a week or two a most important treasury decision, based on this conference, will be issued. This will be along the lines persistently urged by The Motor and Accessory Manufacturers' Association and will prove, it is believed, eminently satisfactory to the entire industry and particularly to the manufacturers of parts and accessories. Details will be announced as soon as the decision is officially approved.

"It is gratifying to report that the efforts of the National Automobile Chamber of Commerce and our association during the past few months to bring about speedier and smoother administration of the excise tax, are meeting with a considerable degree of success and under the new co-operative and advisory arrangement this will be increasingly true. We now have an opportunity to work hand in hand with the Government to modify and improve the excise tax regulations.

"The next conference will be held in Washington probably in the week of September 15. We are advised by Deputy Commissioner Baker that the subjects enumerated below will be discussed:

"(1) The definition of the terms 'automobile trucks, automobile wagons, and other automobiles' for the purpose of taxation.

"(2) The definition of the words 'parts and accessories.'

"(3) The determination, if possible, of some system whereby parts of parts and accessories may be taxed without the necessity of multiple certificates in the case of successive sales thereof.

"(4) Determination of what does nor does not constitute 'further manufacture' within the meaning of the law.

"(5) Determination of the effect 'general use as a commercial commodity' should have on the status of an article as far as its taxability as a part or accessory is concerned.

"(6) The establishment of some method whereby jobbers and dealers may account for taxable articles purchased by them from the manufacturers thereof, and subsequently diverted to use on or in connection with an article not taxable under Section 900, sub-division 1, 2, or 3.

"(7) Simplification of the regulations affecting export sales, both as to the time within which proof of exportation must be furnished, and as to the character of the proof of exportation required."

Rise of Goodrich Heads

Many of the prominent officials of the B. F. Goodrich Co. are men who have risen from the ranks. A list of employees who have been in the organization for twenty years or more was recently compiled and it numbered nearly 150.

President Bertram G. Work became identified with the Goodrich company thirty-two years ago and worked in the millroom and other factory departments for several years.

John J. Joseph, superintendent of the mechanical division, has climbed from one of the lowest rungs of the ladder. He started his Goodrich career as an office boy in 1897.

Other Goodrich officals, their present capacity and the year their service began are: M. A. Flynn, director of labor, 1898; John F. Gammeter, engineer of mechanical inventions, 1895; W. A. Means, second vice-president, 1897; Harry K. Raymond, second vice-president, 1896; Howard E. Raymond, vice-president, 1898; Edwin C. Shaw, director, 1895; Edward C. Tibbitts, advertising manager, 1897, and B. Stauffer, assistant superintendent, 1893.

Rubber Men in Farm Movement

Industrial leaders of New England, including men prominent in the rubber business, have recently organized the New England Farm and Food Foundation for the purpose of forcing down the cost of living by establishing closer cooperation between the farmer and the consumer.

The waste of food products under present systems, congestion of certain products in one market while other centers are suffering from a scarcity of the same article, and hoarding by profiteers are the particular evils upon which the foundation will center its efforts.

Cooperative buying will be introduced, and the foundation will assist such bodies as already exist along similar lines which in the past have been handicapped by lack of finances.

Farmers will be assisted in obtaining credit and other facilities; in organizing farmers' exchanges and other agencies, and in grading and standardizing the products of the farm. Young men will also be helped in obtaining an agricultural education.

The list of trustees of the foundation looks like a "Blue Book" of New England rubber dealers, and includes M. M. Converse, president of the Converse Rubber Shoe Co., Malden, Mass.; Harry G. Fisk, treasurer of the Fisk Rubber Co., Chicopee Falls, Mass., and Frederick C. Hood, treasurer of the Hood Rubber Co., Watertown, Mass.

Activity at Stanwood Plant

Delivery of machinery to the new Stanwood Rubber Co.'s plant at Newark, N. J., has started with the arrival of heavily laden cars on the factory's siding. Already installation is under way with a complete Southwark Standard Heater Press, one of the great battery of vulcanizers to be used on Stanwood cords, also single and double opening presses and inner tube stripping machines.

Delivery dates of other equipment are being anticipated in nearly every instance and Edward Hutchens, vice-president and engineer, is mashalling a corps of mechanics to install the machinery as fast as it arrives.

The latest addition to the force of experts which this new tire concern is gathering into its organization is C. O. Corey of Rochester, N. Y., who will have direct charge of all engineering operations under the supervision of Mr. Hutchens. Mr. Corey was formerly associated with the Westinghouse-Church-Kerr Co. of New York as erecting engineer and later with other notable organizations on work of a kindred character.

The erection of a 175-ft brick stack for the 1000 kw. power plant is well under way. An interesting feature of this will be the sign, "Stanwood Tires" in black letters against the light buff brick of the stack, which is to be 18 ft. in diameter at the top. This sign should be visible at a radius of many miles.

Chemists' Opinions on Patent Reforms and Pirates Differ Widely

Discussion Among a Number of Chemists Brought Out Wide Differences of Opinion on American Patent System and on Patentees Who Allow Patents to Lie Idle

War on patent pirates and numerous suggestions for patent reform engrossed the attention of three sections of the American Chemical Society meeting in Philadelphia last week.

Wide differences of opinion were expressed as to the best means of warring against that class which takes out patents in general terms not for the purpose of developing an art, but to embarrass inventors and manufacturers by demanding to be bought off before anyone else can work on the lines indicated.

"Our patent system," to quote from the letter of Dr. Hesse, "is founded on the constitutional provision that 'Congress shall have power to promote the progress of science and the useful arts, by securing for limited times to authors and inventors, the exclusive rights to their writings and discoveries.' It seems to me only fair to assume, therefore, that Congress is not to grant these exclusive rights if by so doing 'progress of science and useful arts' is needlessly impeded or obstructed.

"An inventor who allows his patent to lie idle transgresses the spirit underlying the patent system. He is reserving to himself a field of endeavor which he has agreed to exploit and is not exploiting, and by his reservation he prevents the exploitation by others and thus retards progress.

"A possible remedy for this might be a low annual tax, say, from $15 to $25, or some other sum not high enough to stand in the way of any inventions giving any reasonable promise of remuneration, yet high enough to make it appear unprofitable to retain reservations which inventors are either unwilling, unable or incompetent to develop."

Dr. Hesse declared that the United States is the onlp major country which does not have an annual fee system.

"When a German inventor," he continued, "forfeits his German patent he thereby opens that field for development and exploitation by Germans in Germany, but because he does not also at the same time relinquish his corresponding rights in the United States, we are barred by our own laws and by our own acts from enjoying a liberty of action and a freedom of motion which the Germans enjoy. A dead German patent, therefore, still lives and rules in the United States.

"I am of the opinion that such a tax system as here proposed would effectively remove much of the grip which foreign, and especially German Patent inventors, have on our domestic industry and would also relieve us of the congestion due to patents of our own citizens which are not exploited or serve no useful purpose and to some extent, at any rate, of that class of domestic patentees designated, more or less unjustly perhaps, as Patent Sharks, trailers or pirates."

Mr. Edwin J. Prindle, a patent lawyer and also a chemist and who was chairman of the symposium, left the chair to oppose the ideas of Dr. Hesse on the floor. His views followed the lines of an open letter which had been sent to the chairman of the Industrial Section, Dr. Harlan S. Miner, "to state," said he, "that I am quite as much opposed to Germany's peaceful penetration, and quite as desirous of seeing her prevented from using unfair methods as Dr. Hesse can be. We should, however, consider any such proposal in the light of all its reactions and its effectiveness to accomplish that purpose.

"Any amendment to our patent law should conform to its fundamental purpose, which is to secure the production of inventions. The assumption and the fact are that inventions would ordinarily not be produced, if it were not for the inducements of the monopoly provided by the patent system.

"The Patent Committee of the National Research Council has taken the position that the incentive of the inventor should be increased rather than diminished, and its report to that effect has been approved by this society and by many scientific societies, and by several of the large trade organizations.

"The Supreme Court of the United States has decided that the patent law does not require the inventor to work his invention.

"The effect of the annual renewal would be to impose a burden which many individuals and corporations would hesitate to face. Many of the most important inventions have been made by comparatively poor inventors on their own financial resources, and if, after having gotten their patents, they would still have to pay a series of annual taxes totaling a possible $550, and which in no way aided the exploitation of the invention, many of them would undoubtedly not attempt to pay the renewal fees, and thus losing all the time and money put into the invention and patent and all hope of future return, and would act not only as a deterrent to the inventor, but to any purchaser as well.

"Furthermore I do not believe that the imposition of annual taxes upon our patents, would materially alter the German advantage under our patents. If a German owned American patent were valuable in suppressing competition here, the Germans would unhesitatingly pay the renewal fees, even if they were much larger than the proposed taxes. If on the other hand, the patent were so unimportant that the Germans would permit it to lapse for failure to pay the renewal fee, it would be of no advantage to us to be free to use it, for we should not want to use it.

"To be worth while a remedy must be one which will not only effectively check the Germans, but one which will not at the same time injure us—and more than them. The proposed remedy is not such a one."

Mr. W. R. Whitney, of the General Electric Co., said that he would attempt to specifically care for the question of the unfair standing of foreign inventors rather than reduce the favors extended to the American inventors. He declared that everything should be done to encourage young men to train themselves to be inventors.

Akron Building Activity

(Special Akron Correspondence.)

Stories of increased production, great factory additions and growing business continue to be the rule in Akron tire manufacturing circles. The boom which started soon after the armistice was signed appears to be increasing rather than diminishing.

One of the recent announcements is that of the awarding of an $8,000,000 contract to the Hunkin-Conkey Construction Co. of Cleveland by the Kelly-Springfield Tire Co. for the immense plant to be erected at Cumberland, Md.

This factory will require 35 acres for its building sites. Buildings to be started immediately include a large office building, a laboratory, complete power house, boiler room, pump and intake house, together with the main factory containing 2,000,000 feet of floor space.

This is the fourth contract to be awarded by the tire company to the Cleveland builders, the first being a $1,500,000 foundation job.

Over 1,000 workmen will be employed in the construction of the huge factory for six to eight months, it is estimated.

The Hunkin-Conkey company also has been awarded the contract for the construction of the new $700,000 plant for the Firestone Steel Products Co. in South Akron. This building will house the steel rim factory of the Firestone. The plant will cover five acres, comprising a three-story reinforced concrete office building, a main factory building and a garage building.

The India Tire & Rubber Co., a new entry in the tire field, will make additions to its plant at Mogadore that will cost nearly $50,000. The new building will be 84 x 46 feet, four stories, and will be of reinforced concrete and steel construction. It will house the cord tire department and the vulcanizing room. When completed the capacity of the factory will be increaesd from 800 to 1000 tires a day. Officials are planning additional factory improvements, as increased business has put the demand far in excess of the production.

Other tire companies in the Akron district are reporting increased business and greater production. The Goodyear factory here, it is said, has reached the 30,000-a-day mark. Gross sales for the year will run close to $170,000,000 or $40,000,000 more than last year, it is estimated. Firestone is expected to show sales of $90,000,000 as against $75,000,000 for last year. Miller sales are now running over $2,500,000 a month, a large increase. Goodrich sales are also running high.

Kelly Closes New Contracts

Contracts have been closed with the Kelly-Springfield Tire Co. by the Packard Motor Car Co. for its standard equipment for passenger cars and trucks; by the Federal Truck Co. for pneumatic tires exclusively; by the Winton Motor Car Co. and the White Motor Car Co. for standard equipment on their passenger cars.

New Tire Concern

The Acme Tire & Rubber Co., Milwaukee, Wis., has been organized with an authorized capital stock of $100,000 to manufacture pneumatic fabric and cord casings and tubes for motor vehicles. Alvin M. Carter, Andrew Loell, Sr., and John M. Carter are incorporators.

Activities of The Rubber Association

Recent Decisions of the Treasury Department on Tires, Inner Tubes, Accessories, Hose Tubing, Lining and Packing—Acceptance of Through Export Bills of Lading Via North Atlantic Ports

The Rubber Association of America has announced a number of important rulings by the Treasury Department on the tax question as applicable to various rubber articles. In addition a statement is issued on the resumption of acceptance through export bills of lading via the North Atlantic Ports.

Movement of Coal Cars

SEPTEMBER 8, 1919.

To Firm Members:

Our attention has been directed to the statements of various coal operators that the United States Railroad Administration has failed to provide adequate service for the transportation of coal.

With the thought that this office may be in a position to render some assistance to members who are finding it difficult to obtain coal, because of transportation conditions, we would appreciate very much advices respecting any transportation delay affecting the coal supply of any of our members.

It is quite necessary that this information shall be so well-founded that it will bs comparatively easy to substantiate any statements made if called upon to do so.

May we not hope for your early attention to this matter?

A. L. VILES, General Manager.

Export Bills of Lading

AUGUST 26, 1919.

To the Firm Members of The Rubber Association of America, Inc.:

As you are probably aware, the United States Railroad Administration has resumed the acceptance of through export bills of lading via the North Atlantic ports, when they are founded on written ocean contracts and only when shippers give written guarantee that any storage charges accruing at the seaboard will be paid.

Precedent to the acceptance of *commercial freight* in carloads for export, there must be presented by the shipper to the railroad agent at point of origin a "*G. O. C. Permit*" issued by the traffic control manager at port of export on application from the agent of the steamship line booking the cargo, or from representatives of foreign governments or from the United States Food Administration.

The prepayment of ocean charges to the inland carrier is not considered desirable by the United States Railroad Administration, particularly on shipments handled on a measurements basis. Bearing on this matter the following instructions have been issued from the office of the Director, Division of Traffic, United States Railroad Administration, which are quoted for your information:

"Based upon conference with steamship lines interested in New York, Aug. 13th, there is no objection to accepting prepayment of ocean charges in instances where shippers desire to prepay. There should be no complications in so far as ocean charges on weight cargoes are concerned. There will, however, doubtless be some discrepancies on measurement cargo, and in such instances I have said to steamship lines that we would collect from shippers any undercharges that might be reported back by the steamship lines, we remitting the undercharges to steamship lines as quickly as collection has been made of same from shippers."

A. L. VILES, General Manager.

Tax on Hose, Tubing and Packing

AUGUST 25, 1919.

To the Firm Members of The Rubber Association of America, Inc.:

The Rubber Association is advised that the following letter was recently sent out by the office of the Commissioner of Internal Revenue:

Replying to your letter regarding the taxability of radiator, air pump and gasoline hose, generator tubing, brake band linings, and packing, under Section 900, Sub-division (3), of the Revenue Act of 1918:

Brake band linings, packing and gasoline hose have been held not subject to tax as automobile parts or accessories under Section 900, Sub-division (3), of the Revenue Act of 1918. Generator tubing and air pump and radiator hose are not subject to tax as automobile parts or accessories unless specially designed, cut to length, and equipped with fittings making the hose available only for use on or in connection with automobiles.

Respectfully,

(Signed) JAMES M. BAKER,
Deputy Commissioner.

It will be noted that it is held in the above letter that the hose in question is not subject to the tax unless specially designed, cut to length, *and* equipped with fittings making the hose available only for use on or in connection with automobiles.

A. L. VILES, General Manager.

Previous Excise Tax Ruling

NEW YORK, July 26, 1919.

To the firm members of the Rubber Association of America:

The following rulings have just been released by the Treasury Department:

TREASURY DECISION 2893.

(1) ARTICLES CONSIGNED TO RETAILER—The last sentence of Article 8 of Regulations 47 is hereby amended to read as follows:

Where a manufacturer consigns articles to a retailer, retaining ownership in them until they are disposed of by the retailer, the manufacturer must pay the tax upon the basis of the manufacturer's selling price on all goods sold to the retailer, as shown by reports to be procured by him monthly from the retailer.

(2) Tires, inner tubes, part or accessories: Article 14 of Regulations 47 is supplemented by adding thereto the following:

The words "tires, inner tubes, parts, or accessories" shall be understood to embrace only such tires, inner tubes, parts, or accessories as have reached such a stage of manufacture that they constitute articles commonly or commercially known as "tires, inner tubes, parts, or accessories," and shall not be understood to embrace raw materials used in the manufacture of such articles. Unvulcanized sheet rubber, liquid vulcanizing, rubber cement, and friction fabrics are considered to be raw materials and are exempt from tax.

* * *

(4) PARTS OF ACCESSORIES—Article 16, Regulations 47, is supplemented by adding thereto the following:

Parts or accessories for automobile trucks, automobile wagons, other automobiles, or motorcycles primarily adaptable for use on or in connection therewith when sold for any other purpose are not taxable provided the purchaser files with his order a statement that such parts or accessories are to be used on or in connection with another article of commerce not enumerated in or included in subdivision (1), (2), (3), of Section 900. For example, a self-starter primarily adaptable for use on an automobile, if sold to a manufacturer of motorboats, such manufacturer stating in his order that it is to be used in the manufacture of a motorboat and not upon an automobile, is not taxable.

TREASURY DECISION 2897.

To Collectors of Internal Revenue and Others Concerned:

Under an opinion of the Attorney General, dated July 7, 1919, manufacturers, producers, and importers are declared to be subject to the excise tax imposed by Section 900 of the Revenue Act of 1918 upon sales made to a State or a political sub-division thereof except as provided in sub-division (10) of such section.

In accordance with the above opinion, manufacturers, producers, and importers are subject to excise tax under Section 600 of the Revenue Act of 1917, and Section 900 of the Revenue Act of 1918 upon all sales of taxable articles made to States or political subdivisions thereof except where specifically exempt from tax upon such sales, as under subdivision (10) of Section 900 of the Revenue Act of 1918. In addition to liability to tax under the above sections, manufacturers, producers, importers and vendors are held to be liable to tax upon all sales of taxable articles made to States or political sub-divisions thereof under Section 313 of the Revenue Act of 1917, and under Sections 628, 902 and 905 of the Revenue Act of 1918; and lessors of positive motion picture films containing pictures ready for projection are subject to tax upon amounts received from the leasing of such films to States or political sub-divisions thereof under Section 906 of the Revenue Act of 1918. Where an excise tax is imposed directly upon the vendee as under Sections 904 and 907 of the Revenue Act of 1918, sales to States or political sub-divisions thereof are exempt from tax.

Article 10 of Regulations 47 is amended to read as follows:

Article 10—Sales to the Government or a State: The tax applies to articles enumerated in Section 900 when sold to the Government. Where, however, the Government supplies a manufacturer with all materials and parts, except a small portion furnished by the manufacturer under a contract stipulating that the manufacturer shall be guaranteed a certain profit, no tax is payable because the manufacturer does not sell the article. Articles manufactured in plants taken over and operated by the Government are not subject to the tax. The tax also appleis to articles enumerated in this section, except to those enumerated under sub-division (10), when sold to a State or political sub-division thereof even though they are to be paid for entirely out of public moneys and are to be used in carrying on governmental operations.

A. L. VILES, General Manager.

Tax on Tires, Tubes, Etc.

SEPTEMBER 6, 1918.

To the Firm Members of The Rubber Association of America, Inc.:

The attached important Treasury Decision has just been issued by the Treasury Department and reverses previous rulings to the effect that where tires, inner tubes, parts or accessories are sold by the manufacturer thereof to a manufacturer or producer of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts or accessories, and used by the latter other than in the manufacture or production of new automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts or accessories, or for the sale of new automobile trucks, automobile wagons, other, automobiles, tires, inner tubes, parts or accessories, or in connection therewith or with the sale thereof, or for free replacement under contract or guaranty," the purchasing manufacturer shall account to the manufacturer of the tires, inner tubes, parts or accessories who shall then account for and pay the tax thereon to the Government.

It will be noted that this decision provides for a revised form of certificate in lieu of the old so called manufacturer's certificate embodied in Treasury Decision 2852, which was enclosed in circular letter of the Association, dated June 5, 1919. The Association believes that it will be unnecessary to obtain this revised form of certificate covering past transactions, where the old form has been procured, but is, however, taking up this point with the Commissioner of Internal Revenue and will further advise you.

A. L. VILES, General Manager.

Excise Tax

So much of the provisions of Article 14 of Regulations 47, Treasury Decisions 2852, 2860 and 2893, relating to the sale of tires, inner tubes, parts or accessories, to manufacturers or producers of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner

tubes, parts and accessories, for sale without further manufacture, modified.

TREASURY DEPARTMENT,
Office of Commissioner of Internal Revenue,
Washington, D. C.

TO COLLECTORS OF INTERNAL REVENUE AND OTHERS CONCERNED:

Article 14 of Regulations 47, entitled "Tires, inner tubes, parts and accessories sold to manufacturers," is hereby modified to read as follows:

Sub-division (3) of Section 900 of the Act exempts from tax sales of tires, inner tubes, parts, or accessories to a manufacturer or producer of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts, or accessories. In order for the sale to come within the exemption of the statute, the vendor must also at the time the goods are shipped or sold (whichever is prior) have in his possession an order or contract of sale, with certificate of the purchaser in writing, printed thereon or permanently attached thereto, to the effect that the purchaser is a manufacturer or producer of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts or accessories; that he is purchasing the articles in question as such manufacturer or producer for resale in some form or manner, or for free replacement under contract or guaranty; and that he will account to the Internal Revenue Collector and pay the tax on the sale of such articles, unless such sales by him are made to another manufacturer or producer of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts or accessories for resale by him in some form or manner or for free replacement, in which case he will require the same form of certificate from such manufacturer or producer; that when such tires, inner tubes, parts or accessories are sold other than on, or in connection with, the sale of new automobile trucks, wagons, automobiles or motorcycles, he will pay the tax on such sales (unless made to a manufacturer or producer, or for free replacement under a contract or guaranty); that when such articles are sold on or in connection with the sale or such new vehicles he will pay the tax on the selling price of such vehicles, including such articles. Said manufacturers furnishing such certificate will be deemed manufacturers within the meaning of the law and subject to the tax imposed on sales of such articles by manufacturers, unless the sales are made to another manufacturer or producer of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts or accessories, for resale by him in some form or manner or for free replacement under a contract or guaranty, and who furnishes a certificate so stating. Following is a form of the certificate or statement which will be accepted and in substance must be strictly adhered to:

The undersigned hereby certifies that he is a manufacturer or producer of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts or accessories, and that the tires, inner tubes, parts or accessories purchased hereunder are purchased by him as such a manufacturer or producer for resale in some form or manner, or for free replacement under contract or guaranty, and agrees if any of the tires, inner tubes, parts or accessories are sold by him exempt from tax to another manufacturer or producer of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts or accessories for like purpose, he will require a similar certificate from such manufacturer or producer. The undersigned further agrees that in respect to all tires, inner tubes, parts or accessories sold by him, unless such sale is made to such a manufacturer or producer, he will pay the tax on such sale direct to the Internal Revenue Collector, including it in his tax return covering the month in which such sale is made; said tax to be paid on the basis of the taxpayer's selling price of such articles when sold other than on, or in connection with, the sale of new automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts or accessories, and on the selling price of such vehicles or articles when the same includes such articles.

If it is impracticable to furnish a certificate for each order, a certificate covering all orders between given dates (such period not to exceed a month) will be accepted. If in any case such an order and certificate cannot be produced on demand of any authorized agent of the Department, the tax in respect to the sale will be considered in default.

So much of the provisions of Regulations 47, Treasury Decisions 2852, 2860 and 2893, as relates to the sale of "tires, inner tubes, parts or accessories" are, in so far as they conflict herewith, hereby revoked.

J. H. CALLAN,
Acting Commissioner of Internal Revenue.

Approved September 3, 1919.

CARTER GLASS, Secretary of the Treasury.

Rubber Manufacturers Who Pay Rubber Fee

The following manufacturers, members of the Rubber Association of America, Inc., have agreed to pay to the Association through importers the fee of 3 cents per hundredweight on all crude rubber purchased by them.

A

Acme Rubber Mfg. Co., The ..... Trenton, N. J.
Acushnet Process Co., Inc. ..... New Bedford, Mass.
Advance Rubber Co. ..... 1717 8th Ave., Brooklyn, N. Y.
Ajax Rubber Company ..... 220 West 57th Street, N. Y. C.
Amazon Rubber Co., The ..... Akron, Ohio
American Hard Rubber Co. ..... 11 Mercer Street, N. Y. C.
Apsley Rubber Company ..... Hudson, Mass.
Archer Rubber Company ..... 213 Central Street, Milford, Mass.
Armstrong Rubber Co., Inc., The ..... Garfield, N. J.
Avon Sole Company ..... Avon, Mass.

B

Batavia Rubber Company, The ..... Batavia, N. Y.
Baumann Rubber Co., The ..... New Haven Conn.
Beacon Falls Rubber Shoe Co. ..... Beacon Falls, Conn.
Beacon Tire Company, Inc. ..... Beacon, N. Y.
Besaw Tire & Rubber Co., The ..... Canton, Ohio
Bishop Gutta-Percha Co. ..... 420 East 25th Street, N. Y. C.
Boston Belting Corporation ..... 80 Elmwood Street, Roxbury, Mass.
Boston Blacking Co. ..... East Cambridge, Mass.
Boston Woven Hose & Rubber Co. ..... Boston, Mass.
Bourn Rubber Company ..... Providence, R. I.
Braender Rubber & Tire Co. ..... Rutherford, N. J.
British-American Mfg. Co. ..... Springdale, Conn.
Brunswick-Balke-Collender Co. ..... 31 W. 32nd Street, N. Y. C.

C

Cambridge Rubber Company ..... 748 Main Street, Cambridge, Mass.
Canadian Consol. Rubber Co., Inc. ..... Montreal, Quebec, Canada
Canfield Company, The H. O. ..... Bridgeport, Conn.
Canton Rubber Company, The ..... Canton, Ohio
Carlisle Cord Tire Co., Inc. ..... Andover, Mass.
Carlisle Tire & Rubber Co. ..... Carlisle, Pa.
Carr Rubber Company, F. S. ..... Framingham, Mass.
Century Rubber Works ..... 1346 Rawson Street, Chicago, Ill.
Century-Plainfield Tire Co. ..... 902 North Avenue, Plainfield, N. J.
Chicago Rubber Clothing Co. ..... Racine, Wisconsin
Chippewa Rubber Company ..... 703 Wisconsin Street., Eau Claire, Wis.
Cincinnati Rubber Mfg. Co., The ..... Cincinnati, Ohio
Clifton Manufacturing Co. ..... Jamaica Plain, Boston, Mass.
Columbia Tire & Rubber Co., The ..... Columbiana, Ohio
Combination Rubber Mfg. Co., The ..... Bloomfield, N. J.
Continental Rubber Works ..... Erie, Pa.
Converse Rubber Shoe Co. ..... Malden, Mass.
Corona Rubber Mfg. Co. ..... 12 E. Rittenhouse Street, Philadelphia, Pa.
Cortland Tire & Rubber Co. ..... Belleville, N. J.
Crescent Insulated Wire & Cable Co. ..... Trenton, N. J.
Cross Country Tire Co. ..... Buffalo, N. Y.
Cupples Company ..... St. Louis, Mo.
Curtis Tire & Rubber Co. ..... Muskegon, Michigan

D

Davidson Rubber Company ..... Box 48, Boston, Mass.
Davol Rubber Company ..... Providence, R. I.
Dayton Rubber Mfg. Co. ..... Dayton, Ohio
DeLion Tire & Rubber Co. ..... Trenton, N. J.
Doherty Rubber Works, Inc., Eugene ..... 110 Kent Ave., Brooklyn, N. Y.
Doss Rubber & Tube Company ..... Atlanta, Ga.
Dreyfus Company, L. A. ..... Edgewater Street, Staten Island, N. Y.
Dryden Rubber Company ..... 1014 So. Kildare Ave., Chicago, Ill.
DuPont-Fabrikoid Company ..... Wilmington, Del.
Dural Rubber Corp. ..... Flemington, N. J.
Duratex Company, The ..... Newark, N. J.

E

Eagle Rubber Co., The ..... Ashland, Ohio
Easthampton Rubber Thread Co. ..... Easthampton, Mass.
Electric Cable Company, The ..... 10 E. 43rd Street, N. Y. C.
Electric Hose & Rubber Co. ..... Wilmington, Del.
Elkhart Rubber Works ..... Elkhart, Ind.
Empire Tire & Rubber Corp. ..... Clinton and Mulberry Sts., Trenton, N. J.
Essex Rubber Company ..... Trenton, N. J.
Eureka Rubber Mfg. Co., Inc. ..... College Point, N. Y.

F

Faber Rubber Company, Eberhard ..... 37 Greenpoint Ave., B'klyn, N. Y.
Falls Rubber Company, The ..... Cuyahoga Falls, Ohio
Faultless Rubber Company, The ..... Ashland, Ohio
Featheredge Rubber Co. ..... Chicago, Ill.
Federal Rubber Company, The ..... Cudahy, Wisconsin
Firestone Tire & Rubber Co., The ..... Akron, Ohio
Fisk Rubber Company, The ..... Chicopee Falls, Mass.

G

Gates Rubber Company ..... Denver, Colo.
General Rubber Co. ..... 1790 Broadway, N. Y.
General Tire & Rubber Co., The ..... Akron, Ohio
Gillette Rubber Company ..... 1834 Broadway, N. Y. C.
Globe Rubber Tire Mfg. Co. ..... 1851 Broadway, N. Y. C.
Goodrich Company, The B. F. ..... Akron, Ohio
Goodyear Rubber Company ..... 787 Broadway, N. Y. C.
Goodyear Rubber Insulating Co. ..... 105 E. 131st St., N. Y. C.
Goodyear Tire & Rubber Co. ..... Akron, Ohio
Gordon Tire & Rubber Co., The ..... Canton, Ohio
Gregory Rubber Company, The ..... Akron, Ohio

H

Habirshaw Electric Cable Co., Inc. ..... 10 E. 43rd Street, N. Y. C.
Hale Rubber Co., Alfred ..... Atlantic, Mass.
Hamilton Rubber Mfg. Company ..... Trenton, N. J.
Hardman Rubber Corporation ..... New Brunswick, N. J.
Hauthaway & Sons, C. L. ..... 346 Congress St., Boston, Mass.
Hawkeye Tire & Rubber Co., The ..... Des Moines, Iowa
Hazard Manufacturing Co. ..... 533 Canal Street, N. Y. C.
Hazon-Brown Co. ..... 727 Atlantic Ave., Boston, Mass.
Hewitt Rubber Company ..... 240 Kensington Ave., Buffalo, N. Y.
Hodgman Rubber Company ..... Tuckahoe, New York
Home Rubber Company ..... Trenton, New Jersey
Hood Rubber Company ..... Watertown, Mass.
Howe Rubber Company ..... New Brunswick, New Jersey

I

Indiana Rubber & Insulated Wire Co. ..... Jonesboro, Indiana
Inland Rubber Company ..... Chicago, Ill.
International India Rubber Corp. ..... South Bend, Indiana

J

Jenkins Rubber Company ..... Elizabeth, New Jersey

K

Kaufman Rubber Company, Ltd., The ..... Kitchener, Ontario, Canada
Kelly-Springfield Tire Company ..... 200 W. 57th St., N. Y. C.
Keystone Rubber Mfg. Company ..... Erie, Pa.
Kleinert Rubber Company, I. B. ..... 725 Broadway, N. Y. C.
Kokomo Rubber Company ..... Kokomo, Indiana

L

Lancaster Tire & Rubber Co., The ..... Columbus, Ohio
Lee Tire & Rubber Co. ..... 245 W. 55th St., N. Y. C.
Lion Tire & Rubber Corp., The ..... La Fayette, Indiana
Long-Wear Rubber Company, The ..... Elyria, Ohio
Lovell Manufacturing Company ..... Erie, Pa.
Luzerne Rubber Company, The ..... Trenton, New Jersey

M

McCreary Tire & Rubber Company.....Indiana, Pa.
McGraw Tire & Rubber Company, The.....East Palestine, Ohio
McLean Tire & Rubber Company.....East Liverpool, Ohio
Mansfield Tire & Rubber Co., The.....Mansfield, Ohio
Marathon Tire & Rubber Co., The.....Cuyahoga Falls, Ohio
Marion Tire & Rubber Company.....Marion, Ohio
Mason Tire & Rubber Company, The.....Kent, Ohio
Massilon Rubber Company, The.....Massillon, Ohio
Meade Rubber Company.....Stoughton, Mass.
Mercer Rubber Company.....Hamilton Square, New Jersey
Michelin Tire Company.....Milltown, New Jersey
Miller Rubber Company, The.....Akron, Ohio
Mishawaka Woolen Manufacturing Co.....Mishawaka, Indiana
Mohawk Rubber Company, The.....Akron, Ohio
Monarch Rubber Company, The.....Canton, Ohio
Mystic Rubber Corp.....W. Medford, Mass.

N

National Rubber Company.....North Broad St., Phila., Pa.
National Tire & Rubber Co.....East Palestine, Ohio
Needham Tire Company.....Charles River, Mass.
Newark Rubber Company.....Factory—Garfield, N. J.
N. J. Car Spring & Rubber Co., Inc.....Jersey City, N. J.
New York Insulated Wire Co.....114 Liberty St., N. Y. C.
N. Y. Mackentosh Clothing Co.....Mamaroneck New York
Norwalk Tire & Rubber Co. The.....Norwalk Conn.

O

Oak Rubber Company The.....Ravenna Ohio
O'Bannon Corporation.....30 State Street, Boston, Mass.
Omo Manufacturing Co., The.....Middletown, Conn.
Okonite Company, The.....501 Fifth Avenue, N. Y. C.
Owen Tire & Rubber Co., The.....Bedford, Ohio

P

Panther Rubber Manufacturing Co.....Stoughton, Mass.
Parker, Stearns & Company.....Brooklyn, New York
Partridge Rubber Company, Ltd., The F. E.....Guelph, Ontario
Pennsylvania Rubber Company.....Jeannette, Pa.
Pharis Tire & Rubber Co., The.....Newark, Ohio
Phoenix-Hermetic Company.....2444 W. 16th St., Chicago, Ill.
Phoenix Rubber Company, The.....Akron, Ohio
Pines Rubber Company, Inc.....148 39th St., Brooklyn, N. Y.
Pioneer Rubber Mills.....68 Sacramento St., San Francisco, Cal.
Plymouth Rubber Company.....Canton, Mass.
Polack Tyre & Rubber Company.....1876 Broadway, N. Y. C.
Poison Rubber Company, The.....Cleveland, Ohio
Porter Rubber Company, The.....Salem, Ohio
Portage Rubber Company, The.....Barberton, Ohio
Portland Rubber Mills.....Portland, Oregon

Q

Quabaug Rubber Company.....North Brookfield, Mass.
Quaker City Rubber Co.....629 Market St., Phila., Pa.

R

Racine Auto Tire Company.....Racine, Wisconsin
Ravenna Rubber Company, The.....Ravenna, Ohio
Raybestos Company, The.....Bridgeport, Conn.
Ray Tire & Rubber Co.....833 Rees St., Chicago, Ill.
Reading Rubber Mfg. Co.....Reading, Mass.
Republic Rubber Corp., The.....Youngstown, Ohio
Rex Hide Rubber Mfg. Co.....East Brady, Pa.
Roberts Rubber Co., Weldon.....117 Mechanics St., Newark, N. J.
Rosenwald & Weil.....1514 W. Kinzie St., Chicago, Ill.
Rubber Products Co., The.....Barberton, Ohio
Ryan Ideal Stain & Bldg. Co.....696 Washington St., Lynn, Mass.

S

Samson Tire & Rubber Corp.....Compton, California
Savage Tire Co., The.....San Diego, Calif.
Schacht Rubber Mfg. Co.....Huntington, Ind.
Schwarzwaelder Company, The.....1017 Wood St., Phila., Pa.
Scioto Rubber Company, The.....Columbus, Ohio
Seamless Rubber Company, Inc., The.....New Haven, Conn.
Simplex Wire & Cable Co.....201 Devonshire St., Boston, Mass.
Sioux City Tire & Mfg. Co.....Sioux City, Iowa
Somerset Rubber Reclaiming Works.....New Brunswick, N. J.
Spaulding & Bros., A. G.....126 Nassau St., N. Y. C.
Sprague Tire & Rubber Co.....Omaha, Nebraska
Stamford Rubber Supply Co., The.....Stamford, Conn.
Stamford Four Tire Company.....Keokuk, Iowa
Standard Underground Cable Co.....Pittsburg, Pa.
Star Rubber Company, The.....Akron, Ohio
Sterling Tire Corporation.....Rutherford, N. J.
St. Mungo Mfg. Co. of America.....121 Sylvan Ave., Newark, N. J.
Stowe & Woodward Company.....Campello, Mass.
Strauss Rubber Co., Archer.....Framingham, Mass.
Surety Tire & Rubber Co.....St. Louis, Mo.
Swinehart Tire & Rubber Co., The.....Akron, Ohio

T

Thermoid Rubber Company.....Trenton, N. J.
Traun Rubber Company.....239 Fourth Ave., N. Y. C.
Twin Tube & Rubber Company.....Chicago Heights, Ill.
Tyer Rubber Company.....Andover, Mass.

U

United & Globe Rubber Mfg. Cos.....Prospect St., Trenton, N. J.

V

Van Cleaf Bros.....Chicago, Ill.
Victor Balata & Textile Belting Co.....58 Murray St., N. Y. C.
Victor Rubber Company, The.....Springfield, Ohio
Voorhees Rubber Mfg. Co.....20 Bostwick Ave., Jersey City, N. J.
Vulcan Proofing Co., The.....583 Dean Street, Brooklyn, N. Y.
Vulcanized Rubber Co., The.....251 Fourth Ave., N. Y. C.

W

Western Reserve Rubber Company, The.....Akron, Ohio
Western Rubber Company.....Goshen, Indiana
Whitall Tatum Company.....46 Barclay Street, N. Y. C.
White Dental Mfg. Co., The S. S.....Princess Bay, New York
Whitehead Bros. Rubber Co., The.....Trenton, New Jersey
Whitney Blake Company, The.....New Haven, Conn.
Worthington Ball Company, The.....Elyria, Ohio

Z

Zee Zee Rubber Company.....Yardville, New Jersey

Sprague Output Increased

It is announced that the Sprague Tire and Rubber Co., Omaha's biggest tire factory, September first entered on its ninth month of production with an output of 350 tires and 500 tubes a day.

Under the direction of E. H. Sprague, the company has made remarkable strides. It has carefully pioneered its way, and now bids fair to become one of the largest tire factories in the west. In eight months the company has developed jobbing accounts in 26 states, and now, with increased production planned, it is establishing export connections. New machinery, which has been ordered, will increase the output to 600 tires and 1,000 tubes a day.

The company has been backed by Nebraska and Iowa stockholders. Its capitalization is $2,000,000, of which $1,500,000 is 7 percent preferred participating stock and $500,000 common.

The factory is built on the latest plan, and pioneers who have seen it pronounce it perfect for tire and tube manufacturing.

At the age of twelve years E. H. Sprague, president, started as errand boy in the rubber business in Boston. Five years later he entered the employ of the American Rubber Company, Boston, Massachusetts. When the United States Rubber Company was organized, Mr. Sprague entered their employ and was associated with them for thirty-two years.

In 1894 he came to Omaha as manager for one of the branch stores. In 1896 this branch was turned over entirely to Mr. Sprague, and until 1899 it was operated in the name of E. H. Sprague and Company.

In 1900 the Omaha Rubber Company was incorporated, and Mr. Sprague was elected president and manager, and continued in that capacity until about two years ago.

Army Sale of Raw Material

The War Department, through the Director of Sales, announces the surplus stocks of materials which will be offered for sale from time to time, generally under sealed proposals. The Raw Material and Scrap Section of the office of the Director of Sales, Munitions Building, Washington, District of Columbia, will furnish information concerning any of the materials listed as on hand July 10 in the schedule recently published.

This list includes 582 tons of rubber, 4004 ft. of rubber belting and 11,565 ft. of rubber hose. Of metals and chemicals more or less in demand in the rubber industry may be mentioned: acetone, 56,748 lbs.; acid, nitric, 42 per cent, 14,015,451 lbs.; acid, hydrochloric, 20 per cent, 511,790 pounds; aluminum sulphate, commercial purity, 2,790 lbs.; aluminum sulphate, 7 per cent, 13,600 lbs.; carbon bisulphide, 2000 gals.; carbon tetrachloride, 99 per cent pure, 10,500 lbs.; glycerine, 100 lbs.; lampblack, dry, 28 tons; lime, 48,163 lbs.; nitre cake, 36,000 lbs.; rosin, 125 tons; sulphur chloride, 2619 tons; turpentine, crude, 9670 gals.; zinc, 40,003 tons; zinc, sheet, 13 tons.

Chemical Industry at Niagara Falls

The Western New York Section of the American Chemical Society, at its annual meeting, has prepared for publication a statement of the size of the electrochemical industries of Niagara Falls in an endeavor to enlist the aid of the public in all efforts to stimulate and encourage a continuation of the growth of the power and accompanying chemical developments in this country.

The statement further reads:

"The conservation of our resources demands the fullest development of the hydro electric possibilities of the nation with the consequent saving and better utilization of our coal deposits.

"This tabulation of the chemical products of the Niagara Falls district serves to show the wide distribution of these products and their necessity to the chemical and commercial well-being of the country as a whole. It also serves to show the interdependence of large power developments and electrochemical processes."

Items of Interest to Rubber Trade

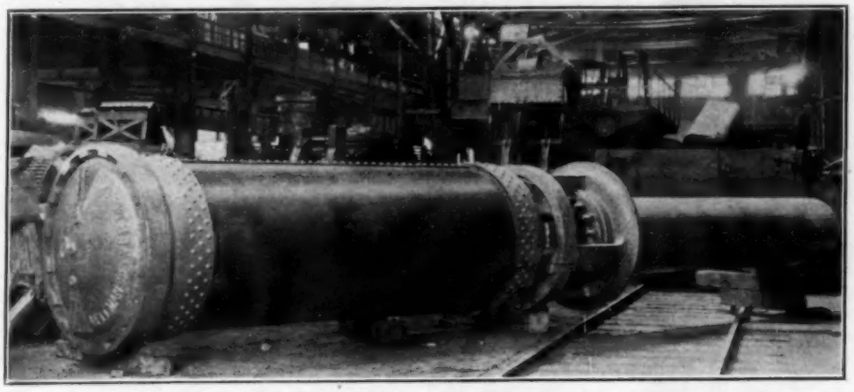
Wellman-Seaver-Morgan Announces New Stroke Vulcanizers in Complete Range of Sizes—New Notebook Issued by Vanderbilt—Akron Stock Market—British Standardize Tire Sizes

W-S-M Hydraulic Vulcanizer

The new Wellman-Seaver-Morgan vulcanizers are built in all sizes ranging from the ones used in curing the smallest pneumatic casing to those used for the largest solid or cord pneumatic tires for motor trucks. Cylinders can be supplied for any hydraulic pressures and shells for any steam pressure within practical limits.

The ram is made in various sizes of diameter and stroke, depending on the purpose for which the press is to be used.

The present designs cover the several sizes of rams, cylinders, shell rings and shells required for the work of most tire factories. As special requirements arise, the Wellman-Seaver-Morgan engineering department submits its recommendations to solve the particular problem.



WELLMAN-SEAVER-MORGAN STROKE VULCANIZER

The vulcanizer consists of a cylindrical steel shell, in which the tires are stacked and cured under pressure by steam, and a hydraulic ram by which pressure may be applied to the tires. The shell is made of steel plate, hot riveted throughout.

The cylinder of the hydraulic ram is a steel casting. The cylinder is separated from the upper shell by a pedestal with large cored openings. This permits the packing and adjusting of the packing boxes without going inside the shell, and also prevents water in the hydraulic cylinder from leaking into the vulcanizer shell.

The lid at the top of the shell through which the tires are loaded into the vulcanizer is of the quick opening type, having lugs which engaged with similar lugs on the shell ring. Thus the lid is locked or unlocked by a slight turn in either direction.

An automatic sealing ring is located between the lid and the shell ring prevents the leakage of steam.

British Import Restriction Lifted

The ban on the import of various chemicals into the United Kingdom has recently been lifted and licenses been issued. In the list, which includes 56 chemicals, are two of interest to the rubber industry, namely, acetone and carbon bisulphide.

The licenses for the import of lithophone are, however, revoked and no imports will be allowed of the material until further notice.

Vanderbilt Issues Interesting Notebook

The R. T. Vanderbilt Company, 50 East 42d Street, New York, is issuing a loose-leaf leather covered notebook bearing the name of the recipient and is sending these books on request to chemists and superintendents, purchasing agents and rubber compound men. They contain several pages of data with reference to price lists of rubber compounding ingredients, volume costs, cubic foot costs of minerals and rubber, methods of figuring specific gravities and volume costs, tables showing the relation between temperature and steam pressure, advertising data regarding particular materials supplied to the rubber trade by the R. T. Vanderbilt Company, and also pages for general memorandum purposes.

Akron Stock Market

(Special Akron Correspondence.)

There was little change in the rubber stocks quotations in the local market during the past week. Even the announcement of the Miller Rubber Co. that $800,000 in common stock, held in the treasury, would be sold to shareholders on a basis of one-fifth their holdings, failed to develop much activity.

Following are the quotations for September 2:

	Bid.	Asked.
Amer. R. & T. com	59	...
Amer. R. & T. pfd	105	...
Amazon Rubber	...	150
Firestone com	172	175
Firestone pfd	100	101
General com	480	...
General pfd	99	100
B. F. Goodrich com	74	76
B. F. Goodrich pfd	102¾	103¼
Goodyear com	342	346
Goodyear 1st pfd	106	106½
Goodyear 2d pfd	107	107½
India Rubber	215	223
Kelly-Springfield	132	134
Mason com	24½	...
Mason pfd	...	87
Marathon com	...	55
Miller com	...	200
Miller 1st pfd	103½	104½
Miller 2d pfd	104	105½
Mohawk com	303	...
Mohawk pfd	100	110
Portage com	140	145
Portage pfd	97½	98½
Republic com	6	7
Republic 1st pfd	...	96
Republic 2d pfd	...	92
Rubber Products	138	143
Star Rubber com	330	350
Star Rubber pfd	...	98½
Swinehart com	84	86½

M.A.M.A. Plans for Buffalo Meeting

The program for the Credit Convention of the Motor and Accessory Manufacturers Association at Buffalo, September 11th, 12th and 13th, was announced at the beginning of this week by M. L. Heminway, the General Manager.

Discussion of credit subjects will be the principal feature of the business sessions. All phases of credit work as affecting the automotive industry will be discussed by representative credit managers, bankers and general business executives.

A novel feature of the Convention will be a general discussion of business conditions and important problems in the automotive industry. This will be in the nature of an open forum symposium in which all members present may present their views on the outstanding problems confronting business in general and the automotive industry in particular.

From returns already in hand, it is evident that the Buffalo Convention will be the largest yet held by the Motor and Accessory Manufacturers Association. An attendance of more than one hundred and fifty is expected.

Following the business sessions on Thursday and Friday, a golf tournament and a trip to the Gorge and Niagara Falls will be the order of the day on Saturday. A banquet and dance will be held on the evening of Thursday, September 11th. Headquarters for the Convention will be the Hotel Lafayette, Buffalo.

The various talks on credit and kindred subjects will be by various leaders in the industry. The tire industry is represented by H. A. Tongue, credit manager of the Firestone Tire and Rubber Co., who will speak on "How to use the Association's Credit Service to the best advantage."

British Standardize Sizes

Revolutionary action has been taken by British tire manufacturers in reducing the number of standard sizes of pneumatic tires to ten and of standard rims to five. These standard sizes only will be supplied for new equipment, but other sizes will be furnished in limited numbers for replacement purposes. That this decision is a drastic one is evident when it is considered that formerly there were approximately fifty sizes listed.

There are two features of interest in connection with the new standard sizes. One of these is the apparent disappearance of the 90 mm. tire; perhaps the most popular of all in pre-war days. The other is the substitution of inches for millimeters in what are now the 30 x 3½ and the 31 x 4 sizes. The latter illustrates the influence of the Ford, inch tire replacements having become sufficiently profitable to the tire makers to cause them to install the necessary moulds and equipment.

All the new tires are of ordinary clincher type and are used, as is the custom in Europe, with security bolts. Table of sizes follows:

30 x 3½ in. 31 x 4 in.	30 x 3½ in.
915 x 105 mm. 815 x 120 mm.	815 x 105 mm.
820 x 120 mm. 820 x 135 mm.	820 x 120 mm.
880 x 120 mm. 880 x 135 mm.	880 x 120 mm.
895 x 135 mm. 895 x 150 mm.	895 x 135 mm.

Personal Notes of the Rubber Trade

McClaren, Formerly of Ajax and Racine, Now with J & D Tire—McKimm Now General Manager for Premier in Kansas City—Grenier on Southern Trip Among Dealers and Jobbers

McClaren with J & D Tire

H. L. McClaren, who recently resigned as president and general manager of the Ajax and Racine Rubber Companies, has become president and active general manager of the J & D Tire Co., Charlotte, N. C. Mr. McClaren was elected president and general manager of the Racine Rubber Co. in 1913, and when that company was merged with the Ajax Rubber Co. in 1917, he held the same position with both companies. In his new position he succeeds William F. Smith, who has resigned. Production has been increased in the past year over 400 per cent. and further expansion plans will be carried out shortly.

Tilden Becomes Ajax Director

Averill Tilden, a Chicago banker, will succeed H. L. McClaren as a director of the Ajax Rubber Co., New York.

R. W. Ashcroft Sails

R. W. Ashcroft, advertising director of the United States Tire Co., sailed for Europe September 2 on the Carmania. The trip is in the nature of a brief respite from his duties, and will extend over the holidays only.

Trader Returns from West

E. H. Trader, district manager of the American Rubber and Tire Co. of Akron, Ohio, has returned to the home office after three months on the Pacific Coast, during which time he established agencies from the Canadian line to the extreme southwestern part of the United States, with main points of distribution at Portland, San Francisco and Los Angeles.

Numerous sub-agencies were also appointed, covering that territory completely for the distribution of American-Akron products in the west.

Fishley Promoted

The Kelly-Springfield Tire Co. has just appointed Alfred P. Fischley as assistant manager to R. B. Pierce, district manager. Fischley's headquarters will be in Cleveland.

Saalfield Has Returned

Robert S. Saalfield and his wife, formerly Miss Margaret Manton, arrived in New York recently. Mr. Saalfield has been in Ceylon since December, 1917, in the interests of the Goodyear Tire and Rubber Co.

Carlisle Western Branch

The Carlisle Tire & Rubber Co., Carlisle, Pa., has opened a branch in Los Angeles, Cal. R. C. Cooper, formerly connected with the Para Auto Tire Co., Chicago, is in charge.

Booth Heads Hartford Firestone

C. R. Booth of Pittsburgh, has been appointed manager of the Hartford branch of the Firestone Tire & Rubber Co., succeeding Robert M. Ruble, who goes to Springfield, Mass.

Fitzgerald in San Francisco

W. G. Fitzgerald, formerly Kentucky representative of the Mohawk Rubber Co., Akron, now has charge of the San Francisco branch of the company.

McKimm Now with Premier

L. E. McKimm, engineer formerly with the Republic Rubber Corp., Youngstown, Ohio, is now general manager of the Premier Tire & Rubber Co., of Kansas City, Mo. Mr. McKimm is using a special process originated by him in making the company's tires. The name of the process is "Tensilene."

In addition to pneumatic and solid tires the company proposes to manufacture carriages, baby cabs and invalid chair tires, belting, packing, heels and soles, matting, tiling, valves, washers, rolls, etc. The factory will have a capacity of 300 tires and 1000 tubes per day. The building contains 20,000 sq. ft. of floor space, and bids are now being solicited for a new three-story building, according to Mr. McKimm.

Doyle Now with International

P. A. Doyle, who was formerly general sales manager for the Ten Broeck Tire Co. of St. Louis, has recently resigned to join the International India Rubber Corporation as manager of their central district. Mr. Doyle's headquarters will be at Kansas City, Mo., and he will have charge of the distribution of the South Bend tires in that district.

Daum in New Position

George W. Daum has been elected assistant general manager to Seneca G. Lewis, vice-president and general manager of the Pennsylvania Rubber Co. H. Wilfred DuPuy, president and treasurer, has relinquished his position of treasurer to A. H. Price.

Carr Is Cleveland Manager

Charles W. Carr has been appointed manager of the Cleveland branch of The Goodyear Tire & Rubber Co. He has been city salesman for the Goodyear for four years and succeeds Fred L. Morgan, who has been called to the home office in Akron, where he will assume departmental management.

Turnes Becomes Sales Manager

Sam J. Turnes, advertising manager of the Brunswick-Balke-Collender Co., Chicago, becomes general sales manager of the tire department to succeed John W. Maguire, who resigned.

Brown Now with Ideal Tire

(Special Akron Correspondence.)

Robert H. Brown, for six years in charge of the pneumatic tire production of Kelly-Springfield, and previous to that connected with Firestone and Goodyear, has been appointed assistance superintendent of the Ideal Tire & Rubber Co. of Cleveland. He will have charge of all tire building.

Grenier on Southern Trip

Jean Grenier, vice-president and general manager of the Bergougnan Rubber Corporation, Trenton, N. J., his left on an extended trip, which will include a large portion of the southeastern and southern states, the return trip being by way of Indianapolis. Mr. Grenier is making this trip to get in touch with the dealers and jobbers in this territory who are handling Bergougnan tires.

Miller Tire Repair School

Personal attention is an outstanding feature of the tire repair school recently established by the Miller Rubber Co. The course is under competent management, and the work is supplemented by lectures and informal talks by factory and sales experts.

The men taking the course, which extends over a period of two weeks, have the added advantage of visiting the Miller service station adjoining the school in order to see a successful service station in actual operation.

The Miller Rubber Co. has arranged store rooms and equipment in such a way that the men are taught the most approved methods of arranging their own shops. They learn every phase of tire repair work from tubes to fabric and cord tires. They learn how tires and accessories are made and how to sell them, so that graduates from the school are in constant demand.

Miller branch managers are called upon to place experienced men in garages throughout their respective territories. They are glad, indeed, to be able to secure thoroughly trained men by applying direct to the factory. There are several returned soldiers attending the school.

Advance Opens Branch on Coast

The Advance Rubber Co. has opened a branch at 721 So. Olive St., Los Angeles, Cal., under the management of Wm. J. Hartman, who has been connected with this concern at the factory for years. Mr. Hartman has also received a good deal of experience of late in the line of selling automobile tires.

Henderson to Operate Soon

The Henderson Tire & Rubber Co. will have their new plant in operation at Columbus, O., about October 15, with a capacity of 2500 tires a day. The officers are: C. O. Henderson, president; Joseph Friedman, vice-president, and Geo. C. Riley, secretary. The factory at Bucyrus will be abandoned and the new factory will be equipped with all the latest improved machinery for the manufacture of tires and tubes, and will specialize in private brand tires and tubes, and are at present manufacturing tires for some of the largest jobbers in the United States.

Standard Plans Addition

(Special Akron Correspondence.)

The Standard Tire Co. of Willoughby, O., of which R. J. Firestone is president, is making plans for factory additions which will double the present capacity. The output now is 300 tires a day. Mr. Firestone, formerly vice-president of the Firestone Tire & Rubber Co., and a group of associates obtained control of the company last March. The company is capitalized for $500,000, $350,000 common and $150,000 preferred. It manufactures both fabric and cord tires with a trade name of Tiger Tread.

Norwalk Expands Its Capital

Stockholders of the Norwalk Tire & Rubber Co., Norwalk, Conn., have decided to increase the company's capital stock to $3,000,000, an increase of $809,000. The additional capital is to be used in plant extensions, including a new power house and a factory building six stories high 80 by 128, of modern construction and equipment.

MARKETS

Manufactured Rubber Goods

NEW YORK, Sept. 8, 1919.

Steady improvement in conditions affecting the markets for many lines of manufactured rubber goods is reported, and the trade is holding an optimistic view on market conditions. The volume of orders booked is reported to be steadily increasing, but business has not yet reached the point the trade would like to see it at, with the exception of the tire industry, where business is booming. The delay in settling upon the disposition of the railroads has prevented the entry of the various roads into the market for mechanical rubber goods, and the situation still commands close attention. Whether or not the Government returns the roads to private ownership, it is believed that the administration will be compelled to enter the market for at least some supplies within the near future, as present holdings are believed to be low.

The mining companies have not yet resumed operations on a large scale, and little business from this source is looked for until possibly the end of the year. Labor difficulties are preventing the various companies from getting full working forces, although some of the gold mining companies have resumed in a small way.

Manufacturers report that there is a fair volume of routine orders for packing being booked at the present time, and some small sales of hose have been recorded. Consumers, however, show no inclination to anticipate their requirements on any lines, and are buying only to cover their immediate consuming requirements.

EXPORTS

The unfavorable position of the exchange markets is keeping export trade below the figures it would normally reach under present conditions. South American buying, however, is not affected by this situation, and there are some orders for mechanical goods being placed by buyers from our neighboring countries in the South. Recent orders include quantities of railroad equipment, including airbrake hose and corrugated tender hose.

The present rate of exchange with Great Britain means that British importers must pay 15 per cent over prices here in order to put payments for the goods through, and as a result, demand from this country is not active. Scandinavian countries, on the other hand, have been placing fairly large orders here for mechanicals, and demand from Norway, Sweden, and Denmark continues fairly active. It is believed that a goodly portion of the goods thus bought are being trans-shipped into Germany.

MECHANICAL GOODS

Demand has increased somewhat during the past fortnight, and the market is on a firmer footing. The rapid expansion of oil well activities in the Southwest has resulted in the placing of a heavy volume of orders for conveyor belting. Some marine specialties are also in good demand now, and this demand is expected to increase with the larger number of vessels now being drydocked to be overhauled and refitted. Domestic demand for railroad equipment and hose is not large, but there are some fairly heavy consignments being shipped abroad.

DRUGGISTS' SUNDRIES

Demand continues quiet and routine, and retail druggists are showing no desire to anticipate their needs and buy ahead. On the contrary, in view of the unsettled condition of the crude rubber market, the retailers have been buying only in a hand to mouth fashion. Export demand for various rubber surgical goods is attracting some attention, a good demand coming in from South and Central American countries and from the Orient.

AUTOMOBILE TIRES

Business is reported as good by the manufacturers, many of whom are working day and night to keep production up to the volume of orders. In addition, many companies, both large and small, are providing for great expansions in their producing capacity. Manufacturers declare that they are turning out more tires than ever before in the history of the industry. A good percentage of these tires are going to car manufacturers, although dealers are now starting to buy more heavily than for some time past, many of them having cleared their stocks. The local tire trade is looking for a prosperous fall season, as all indications point to mild weather, favorable for touring, for some weeks to come yet. The much talked of "price war" between certain of the larger manufacturers has thus far failed to materialize, and the trade believes that it will not do so. From all parts of the country come reports of the opening of new sales branches and tire service branches, and the industry is witnessing a rapid expansion.

MISCELLANEOUS PRODUCTS

Demand for rubber heels and other rubber footwear is steadily on the increase, due in large measure to the soaring prices of leather. Manufacturers of fiber heels and soles report that the volume of sales of these products is steadily mounting. Many consumers who formerly considered rubber heels and soles a "fad" are now becoming users of the new products, as their wearing qualities have been amply proven. The trade in fiber soles and rubber heels is peculiarly fortunate in having practically no manufacturers who turn out goods of cheaper and inferior quality, and thus help ruin the reputation of the general industry. A good winter season on rubbers and overshoes is anticipated by manufacturers. The buying of jar rings this summer and fall has been disappointing, the sugar shortage and high prices of fruit generally restricting the preserving of fruits for winter use. Little improvement in conditions in the market for reclaimed rubber has been noted, and trading is generally quiet at the present time. The industry is looking for a good demand later in the fall, when the footwear and electrical industries are expected to come into the market for supplies. There is a good demand reported for hard rubber products, with manufacturers unable to keep up with the volume of business offered them. There is a good export demand noted also, repairs to telephone and telegraph systems run down during the war necessitating the purchase of heavy lots of hard rubber products.

Cottons, Yarns and Fabrics

NEW YORK, September 8, 1919.

The Government crop report, issued on September 2, bears out earlier private advices regarding the damage which has been done to the crop by the boll weevil and the army worm plagues. Present indications, the report states, point to a yield of 11,230,000 bales, excluding linters. This makes the fifth consecutive year that the crop has been short, but it is noticeable that in the previous years the cause of the shortage was just opposite to those prevailing this season. In former years the decline was caused by high temperature and droughts; this year it is the result of two much rain and the consequent insect pests.

The Government reported the crop to be 61.4 per cent of normal, as compared with 67.1 per cent in July. The market broke from 120 to 144 points immediately following the issuance of the report, and has been declining steadily ever since, touching new low levels on the present move on Saturday. The trade has been a good buyer in the market ever since the break, most of the buying done coming from this source, although there is a little professional buying. Japanese interests have also been active since the decline, buying on the breaks always. The buying by South and Central American interests has been negligible.

Great Britain is buying rather heavily in the present market, despite the low levels of exchange. This latter factor is really beneficial to England in the case of cotton, inasmuch as the break in exchange was one of the prime factors in the break in cotton a few weeks ago, and raw cotton is now procurable at prices low enough to more than make up for the 15 per cent over normal prices English importers must pay in order to offset the unfavorable exchange rates. France has been buying only in small

quantities, while buying by the other European countries is of small moment, the Scandinavian countries taking some shipments.

SEA ISLAND COTTON

Nothing but bad news has come out of the Sea Island belt for some time past. The latest is to the effect that Sea Island cotton in Georgia and Florida has been badly damaged by the boll weevil and army worm pests, and the same influences are now working on the South Carolina crop. Boll weevils, boll worms, army worms, and red spikders, are reported to be literally swarming in many fields, and this factor, combined with almost continuous rains over the Sea Island belt, and with dry hot weather following these rains, is responsible for the deterioration in the crop. Combined with a short acreage in the spring, it looks as though the output of Sea Island this year would not go far towards meeting the needs of the trade. There were 51,389 bales and 154,060 half bales of the 1917-1918 crop ginned, according to the Government report, as against 92,619 bales and 189,076 half bales in 1916-1917, and 117,559 bales and 192,339 half-bales in 1915-1916. This shows the steady falling-off in production.

EGYPTIAN COTTON

There have been no further important reports regarding the Egyption cotton crop received in the local market. Last reports told of generally favorable conditions for the new crop, and a large yield is looked for should the reserve supplies of water be sufficient to irrigate the growing fields during the next few months. The remaining holdings of old crop are reported well sold.

FABRICS

Demand for fabrics of all descriptions continues strong, and the market is strongly held in all quarters. Export demand continues fair, and domestic inquiries are also active. The Government is still selling materials, one of the latest sales being an offering of a large quantity of linen airplane fabric by the Air Service Material Disposal and Salvage Division of the army.

TIRE FABRICS

With many tire factories operating day and night shifts, dealers report that there is a good demand for tire fabrics, and the market is generally firmly held. The shortage in Sea Island cotton for fabrics is expected to be met by the development of substitutes, as was the case in the establishment of a small Egyptian cotton industry in the arid sections of the Southwest when supplies from Egypt were cut down during the war.

HOSE AND BELTING FABRICS

There is a fair demand for mechanical ducks reported, and manufacturers are buying materials in fair quantities. The export business is reported to be of fair volume, and in addition domestic demand is picking up steadily. Thus far, no large orders for materials have been placed by the railroads, but the trade is hopefully waiting such action, while the question of the ultimate return of the roads to their owners hangs fire.

BURLAPS

There has been no appreciable change in the situation governing the market for burlaps, and there is a continued strong tone featuring the market in all quarters. There is a marked shortage of light weights of burlaps on the spots, and there is a good consuming demand for these grades, as well as for the heavier grades. There is not much offered in the local markets, but it is reported that there is considerable stock afloat from Calcutta, which is available on the basis of 14 cents for light weights, and sales for 90 days' delivery have been made on the basis of 13¾ cents per yard.

DRILLS, SHEETINGS AND OSNABURGS

Trading in the local market for drills and sheetings has been generally quiet during the past fortnight, the trade being generally reluctant to anticipate requirements while the market remains in its present unsettled condition. The fall buying movement, which sellers had been strongly counting on, has thus far failed to materialize, and as a result, there is a somewhat easy undertone featuring the market. Orders received from consumers by the mills are also for only small amounts. The demand for osnaburgs is quiet along routine lines.

TIRE FABRICS

17¼-ounce	Sea Island, combed, sq. yd.	1.40@1.55
17¼-ounce	Egyptian, combed	1.20@1.30
17¼-ounce	Egyptian, carded	Nominal
17¼-ounce	Peelers, carded	.85@ .90
17¼-ounce	Peelers, combed	1.05@1.15

DUCKS

Single Filling (pound basis)	lb.	Nominal
Double Filling (pound basis)		Nominal

DRILLS

37-inch	2.35-yard	yd.	.28½@	.29
37-inch	2.75-yard		.25 @	.25½
37-inch	3.00-yard		Nominal	
37-inch	3.25-yard		.21½@	.....
37-inch	3.50-yard		.21 @	.....
37-inch	3.95-yard		Nominal	
37-inch	2.00-yard Southern		Nominal	
37-inch	2.00-yard Northern		Nominal	
40-inch	2.40-yard Southern		Nominal	
40-inch	2.40-yard Northern		Nominal	
52-inch	1.90-yard Southern		Nominal	
52-inch	1.90-yard Northern		Nominal	

SHEETINGS

40-inch	2.35-yard	yd.	Nominal	
40-inch	2.50-yard		.28 @	.....
40-inch	2.85-yard		.23½@	.24
40-inch	3.00-yard		.23½@	.24
40-inch	3.25-yard		.23 @	.23½
40-inch	3.75-yard		.19 @	.19½
40-inch	3.60-yard		.20 @	.20½
40-inch	4.25-yard		.17 @	.17¼

Note.—In view of the unsettled conditions prevailing in the market at the present time, the prices quoted above are more or less nominal, and are not guaranteed.

BURLAPS
(Carload lots)

			Per Yard	
7	-ounce	40-inch	Nominal	
7½	-ounce	40-inch	Nominal	
7½	-ounce	45-inch	Nominal	
8	-ounce	36-inch	Nominal	
8	-ounce	40-inch	14.20@	14.60
8½	-ounce	40-inch	Nominal	
10	-ounce	36-inch	Nominal	
10	-ounce	40-inch	17.35@	17.50
10	-ounce	45-inch	Nominal	
10½	-ounce	40-inch	17.75@	18.00

Chemicals and Compounding Materials

NEW YORK, September 8, 1919.

Conditions in the market for chemicals and compounding materials were never better, some interests declare, insofar as the volume of business is offered, despite the fact that the market is burdened with high prices for raw materials and labor troubles. In many lines, producers are doing all in their power to continue to speed up production to its top notch, production in many lines falling below the volume of orders coming in. In some lines, producers are sold up to their capacity for the remainder of the year, and are refusing to book any further orders. As for the phantom of German competition in the American market, this bearish possibility is almost entirely lost sight of in the present wave of prosperity.

The cost of production is increasing steadily, and it is but natural that the cost of the finished materials should rise to a certain degree. There have been some small shipments of foreign lithopone brought into the American market, domestic consumers being forced to turn abroad for their materials through the inability of producers to keep production up to the consuming needs. Foreign barytes producers have inaugurated a campaign to capture part of the American market, and other foreign manufacturers are also investigating this market, with a view to competing with American manufacturers, all of which will probably mean lower prices to the consumers in the long run. American talc and soapstone dealers met in New York a short time ago to better production and marketing methods, and to seek tariff protection.

EXPORTS

The export market has been unfavorably affected by the sharp drop in foreign exchange rates. This falling-off in demand comes chiefly from the European trade, buyers from other countries, notably South America and the Orient, continuing to place orders on a fairly large scale for many materials. European purchasers are cancelling many orders booked here, being unable to pay the prices which the present rate of exchange would force them to. With sterling down to $4.15 and francs to 8.35, it can be readily seen that exporters cannot afford to finance many shipments at present prices.

BENZOL

There is a fair consuming demand for benzol noted in the local market, with the range of spot quotations still held at 22 to 27 cents. The inside price is generally the figure asked by producers, dealers generally demanding from 2 to 27 cents per gallon, according to the quantity desired. Export demand is reported rather quiet.

LITHARGE

There is a steady consuming demand for litharge, and the market is displaying a firm undertone. Quotations are held on the basis of 9¾ to 10½ cents per pound. Offerings are not large.

LITHOPONE

Producers of lithopone are booked up so far ahead that they have generally withdrawn entirely from the market, and are devoting their entire attention to filling their orders as promptly as possible. Increased production is being planned in all quarters to take care of the heavy increase in consumption. There have been some small quantities of lithopone received from Holland, and more is expected due to the heavy demand. The Dutch manufacturers get their barytes from Germany. Spot quotations for American are unchanged at 7

cents in carload lots, with little to be had.

WHITING

Demand for whiting continues strong, and the market is being firmly maintained on the basis of $1.15 to $1.20 for commercial, and $1.50 and $1.75 per cwt. for American Paris white. The imported market is strong on the basis of $1.75 to $2.50 for English cliffstone.

ORANGE MINERAL

The market ruled firm, with American quoted on the basis of 13¼ and 13¾ cents per pound, with a good demand noted. Thus far no foreign has been received, and it is believed that the import duty of 25 per cent will cut off any imports.

BARYTES

The demand for barytes continues strong, and the market is firmly held on the basis of $21.00 and $21.50 per ton at the mills. There is a shipment of German barytes afloat for this market, and German producers are planning to make strenuous efforts to recapture the American market, as business for the coming shipment is being solicited of many consumers by agents of the shippers. The German barytes are being offered on a parity with the American product. St. Louis reports that shipments from Western producing sections are being restricted to a degree by the shortage of freight cars. Producers report orders coming in rapidly, with the outlook for fall business very favorable.

GLUES

Continued good demand from the rubber and other trades is reported by producers of glues, and the market is strongly held. Highest grades appear in best demand, although common bone is also active. Extra white is held on the basis of 35 and 40 cents, medium white at 30 and 35 cents, and cabinet at 25 and 36 cents. Low grade cabinet is offered at 20 and 25 cents, foot stock at 13 and 18 cents, brown foot stock at 12 and 16 cents, and common bone at 10 and 15 cents.

WAXES

The market continues quietly held, with a weak undertone on some lines. Bayberry was quiet, with little offering. A good demand for beeswax is reported, with consumers buying ahead in fairly large quantities. Trading in carnauba wax was dull, with an easy undertone prevailing. Germany had been expected to buy rather heavily both here and in primary markets, but this buying has not materialized. Japan wax continues quiet and unchanged.

DRY COLORS

Demand continues quiet, and leading interests predict higher prices on many lines in the near future. Demand is keeping pace with production, and producers are doing their utmost to keep their output up to the requirements of the consuming trade. The resumption of imports of foreign dry colors on a fairly large scale is looked for within a short time. There has been a steady market for blacks, with the rubber trade a factor in buying. Blues were generally quiet and unchanged on the quoted basis. No change in the market for browns has been noted, although demand is on the increase. A better call for greens was reported throughout the market, and heavy sales of Paris and chromes have been made. Reds were unchanged, with the exception of English vermilion, which was reduced to $1.40 and $1.45, following the drop in quicksilver prices. There was a good call for yellows noted.

OILS

There has been a strong consuming demand noted for oils during the past fortnight, and the market has generally displayed a strong tone in all quarters of the trade. There has been a slightly easier tone in spot linseed oil noted, and the oil is a little easier to obtain, although by no means plentiful in any quarters. Corn oil has been generally active, but the output is expected to be increased due to a settlement of a strike which has been holding up operations of a large factor for several weeks past. Trading in turpentine, tar, and rosins has been generally quiet.

Prices Current for Chemicals, Fillers, Colors, etc.

Acetone, carlots	lb.	.15½ @	—
Smaller lots	lb.	.16 @	.16½
Accelerator, in drums	lb.	.85 @	1.00
Acids, Acetic, 56%	cwt.	6.00 @	6.50
Carbolic, C. P.	lb.	.12 @	.15
Muriatic, 20 deg.	lb.	2.00 @	2.25
Muriatic, 22 deg.	cwt.	2.50 @	2.75
Nitric, 42 deg.	cwt.	7.00 @	8.00
Nitric, 40 deg.	cwt.	6.75 @	7.50
Sulphuric, 60 deg.	ton	12.00 @	15.00
Tartaric, crystals	lb.	.86½ @	—
Aluminum Flake	ton	29.00 @	31.00
Aniline oil, bulk basis, Contract		.25½ @	.27
Imported		Nominal	
Domestic		.30 @	—
Antimony, metal spot	lb.	.08⅝ @	.08¾
Oxide	lb.	.09 @	.11
Sulphuret, red	lb.	.20 @	.21
Sulphuret, golden	lb.	.21 @	.22
Sulphuret, crimson	lb.	.45 @	.50
Needle, powdered	lb.	.09 @	.10
Asbestos	ton	35.00 @	45.00
Asphaltum, Egyptian	lb.	.16 @	.20
Domestic	ton	22.00 @	30.00
Barium sulphate, technical	lb.	.04½ @	.05
Sulphide	lb.	07¼ @	.07½
Barytes, prime white imported	ton	Nominal	
white, domestic	lb.	.30 @	.31
off color, domestic	lb.	.21 @	.24
Southern, f.o.b. mills		21.00 @	—
Western, f.o.b. mills		21.50 @	—
Benzol, pure, bulk	gal.	.22 @	.27
Beta-naphtol, sublimed	lb.	.55 @	.65
unsublimed	lb.	.50 @	.62
Blacks, Drop	lb.	.05½ @	.15
Ivory	lb.	.16 @	.30
Carbon, gas, cases	lb.	.12 @	.25
Lampblack, R. M.	lb.	.15 @	.45
Mineral blacks	ton	35.00 @	45.00
Blues, Prussian	lb.	.65 @	.75
Soluble	lb.	.68 @	.78
Ultramarine	lb.	.12 @	.40
Browns, Umber, Turkey, burnt, powdered	lb.	.05 @	.06½
American, burnt	lb.	.03½ @	.04
Cadmium sulphide, yellow	lb.	1.50 @	2.00
Carbon, disulphide, bulk	lb.	.07 @	.07½
tetrachloride drums	lb.	.13¼ @	.14
Caustic Soda, 76@78%	cwt.	3.25 @	3.50
Chalk, precipitated, extra light	lb.	.05½ @	.06½
light	lb.	.05 @	.06
heavy	lb.	.05½ @	.06
China clay, domestic	ton	8.50 @	20.00
imported	ton	18.00 @	23.50
Fossil flour	lb.	.03¾ @	.05
Gilsonite	ton	47.50 @	60.00
Glue, extra white	lb.	.35 @	.40
medium	lb.	.30 @	.35
low grade		.20 @	.25
foot stock		.13 @	.18
brown foots		.12 @	.16
common bone		.11 @	.15
Glycerine, C. P. (drums)	lb.	.20½ @	.21
cans		.22 @	.23
second hands		.20 @	.22
Graphite, flake (bbl.)	lb.	.14 @	.25
powdered (bbl.)	lb.	.05 @	.10
Green, chrome, R. M.	lb.	.35 @	.40
Ground glass (fine)	lb.	.03½ @	.04
Hexamethylene	lb.	.90 @	1.00
Infusorial earth, powd'd.	lb.	.02 @	.035
bolted	lb.	.035 @	—
Iron oxide, red, reduced grades	lb.	.07 @	.08
red, pure, bright	lb.	.15 @	.20
Lead, red, dry (casks)	lb.	.10½ @	.10½
sublimed	lb.	.09¼ @	.09⅝
white, basic carb.	lb.	.09 @	.09½
white, basic sulp.	lb.	.08¼ @	.08½
Lime flour	lb.	.01¾ @	.02
Litharge (casks)	lb.	.09¾ @	.10½
English	lb.	*.12 @	.13
Lithopone, domestic,bbls.	lb.	.07 @	—
in bags	lb.	.06⅞ @	—
Magnesia, carbonate	lb.	.12½ @	.13½
calcined light	lb.	.65 @	.75
Magnesite, calcined,pwd.	ton	50.00 @	65.00
Mica, powdered	lb.	.04¾ @	.05
Mineral rubber (asphal-			
Naphtha, motor gasoline, (steel bbls.)	gal.	.23½ @	—
68 @ 70 degrees (steel bbls.)	gal.	.30½ @	—
70 @ 72 degrees (steel bbls.)	gal.	.31½ @	—
73 @ 76 degrees (steel bbls.)	gal.	.33½ @	—
machine (wood bbls.)	gal.	.36½ @	—
Oil corn, crude	lb.	.25 @	.28½
corn, refined	lb.	.28 @	.28½
*linseed (bbls.) spot		2.18 @	—
linseed (bbls.) Nov.-Dec.		2.00 @	—
Jan.-June		1.92 @	—
in carloads, spot		2.12 @	—
tank cars		2.17 @	—
Oil palm, Lagos	lb.	.17 @	.18
Niger		.16 @	.16¼
pine, yellow	gal.	.87 @	—
rapeseed, refined	gal.	1.50 @	1.60
rapeseed, blown	gal.	1.60 @	1.70
rosin, first rectified.	gal.	.88 @	—
second run		.92 @	—
tar (commercial)	gal.	.36 @	.38
Orange mineral, American.	lb.	.13¼ @	.14¼
imported	lb.	.15 @	.20
Paraphenylenediamine	lb.	2.90 @	3.40
Petrolatum, bbls., amber.	lb.	.07½ @	.08
pale yellow	lb.	.06 @	.07
Pine tar kiln	bbl.	12.00 @	12.50
Pitch	bbl.	8.00 @	8.25
Plaster of paris	bbl.	2.00 @	3.00
Red Tuscan	lb.	.22 @	.30
Indian (reduced)	lb.	.14 @	.16
Standard	lb.	.12 @	.16
Rosin (common to good)— 280 lbs	bbl.	17.35 @	—
Rotten stone, powdered	lb.	.02½ @	.04½
Rubber, substitute, black	lb.	.13 @	.17
white	lb.	.15 @	.24
brown	lb.	.20 @	.25
Shellac, fine orange	lb.	— @	—
T. N.	lb.	1.25 @	—
Bleached ordinary	lb.	1.50 @	—
Bleached bonedry	lb.	1.30 @	1.35
Silex (silica)	ton	22.00 @	40.00
Soapstone, powdered	ton	12.00 @	17.50
Starch, corn, powd.	cwt.	5.62 @	—
pearl		5.37 @	—
Jap. potato	lb.	.09⅝ @	.09⅝
Sulphur, crude	ton	*50.00 @	—
100 pounds		3.20 @	4.25
roll		2.70 @	3.13
commercial superfine		2.50 @	—
Talc, American	ton	20.00 @	40.00
French	ton	*30.00 @	35.00
Toluol, pure, in drums.	gal.	.25 @	.30
commercial		.22 @	.27
Tripolite earth	lb.	.01⅛ @	—
Turpentine, pure gum— spirits	gal.	1.80 @	—
wood	gal.	1.75 @	—
Venice, artificial	gal.	.14 @	.15
true		4.50 @	—
Vermilion, English	lb.	1.40 @	1.45
American		.25 @	.30
Wax, beeswax, crude yel.	lb.	.45 @	.46
refined		.50 @	—
Baybury		.50 @	.53
ceresin, white	lb.	.17 @	—
yellow		.14 @	—

* Boiled, 5 barrels or more, 2c extra.
Double boiled, 5 barrels or more, 3c extra.

Scrap Rubber

NEW YORK, September 8, 1919.

The market for scrap rubber has developed a firmer tone in sympathy with the stronger position of the market for crude, and dealers report that reclaimers are buying in better volume. For some time past now, the reclaimers have been able to get the crude almost as cheap as the scrap, and buying has been necessarily quiet.

There is a better demand coming in for old boots and shoes, dealers state, and the market is stronger. The call for inner tubes is also reported slightly better.

The call for auto tires and bicycle tires has not been very active, and the market continues practically unchanged.

	Cents per Pound.		
Boots and shoes	7.75	@	8.00
Arctics, trimmed	6.50	@	6.60
Arctics, untrimmed	4.25	@	4.75
Tires—Automobile	3.75	@	4.00
Bicycles, pneumatic	2.50	@	3.00
Mixed hose	1.00	@	1.75
Air brake	2.75	@	3.00
Inner tubes, No. 1	20.00	@	21.00
Inner tubes, No. 2	10.00	@	11.00
Red tubes	9.50	@	10.00

Crude Rubber

NEW YORK, September 8, 1919.

The market for plantation grades of rubber is generally held at a firm level, strong advices from primary markets tending to strengthen the undercurrent of feeling. This unlooked-for strength has brought many buyers into the market, and holders of spot stocks are generally reluctant to sell at present prices, with the prospect of higher prices before them. At the close of the market on Saturday, the market for crude grades of plantation was quoted from 1 to 1½ cents higher over the previous day's figures, and the market shows signs of going still higher in the near future.

Buyers are generally active bidders, but there are few sellers in the market. While speculative buying on covering of contracts is said to be partly responsible for the strong position of the market, importers point out the fact that the position of the market has been naturally strengthened during the past fortnight by the falling off in imports, while spot stocks have been steadily depleted by the buying movement. The various rubber companies are reported buying in some volume, while retreading interests are also active to a certain extent.

	Cents per pound.		
Para—Up-river fine	55½	@	56
Up-river medium	52	@	....
Up-river coarse	32	@	32½
Caucho ball	33	@	....
Islands fine	48	@	....
Islands coarse	21½	@	....
Cameta	22½	@	....
Madeira fine	62	@	....
Knapsack	73	@	....
Ceylons—Smoked sheets, ribbed	48	@	48½
Smoked sheets, plain	46½	@	47
First latex pale crepe	49	@	49½
Amber crepe	Nominal.		
Clean brown crepe	54	@	....
Rio Nunez string	55	@	....
Palembang	14	@	....
African	33	@	....
Prime Surinam sheets	1.02	@	....
Centrals—Corinto prime	34	@	....
Esmeralda, prime	34	@	....
*Balata sheets	1.00	@	....
Guayule, wet	25	@	....
Balata, block, Panama	57	@	....

* Nominal.

Among the Dealers

The Janesville Vulcanizing Company, 103-105 North Main Street, Janesville, Mich., is adding equipment, including a Zwebell tire retreading outfit.

Ellison Martin and Lyle Norton have formed a partnership and will open for business as the M. & N. Vulcanizing Company, Newton, Kansas. They are installing new machinery and will do tire retreading and repairing. They will also handle a line of supplies and accessories.

The Douglas Tire & Vulcanizing Company, Omaha, Neb., has opened its business of tire repairing and rebuilding. The concern will act as sales station for Firestone tires and will be under the management of C. W. Boel.

The Hub City Tire Repair Company, Aberdeen, S. D., has moved its place of business to 23 Second Avenue. This firm makes a specialty of retreading worn-out automobile casings and its business has increased so rapidly in this line during the past few months that larger quarters had to be sought. Among other equipment, a new retreading machine has been added for applying ribbed treads.

The firm of Zerweck, Grayson & Company, St. Louis, Mo., has been organized to distribute Star tires and tubes made by the Star Rubber Company, Akron, Ohio, exclusively. The company has opened salesrooms and offices at 2001 Locust Street, with 5,000 feet of floor space.

The Bernstein Tire Company, Cincinnati, Ohio, has opened its second store in that city.

The Star Rubber Company, Akron, Ohio, has established direct factory wholesale branches in New York City and Atlanta, Ga. The former will serve the territory embracing New York, the six New England States, and Eastern Pennsylvania, while the latter will cover the Carolinas, Georgia, Florida, Mississippi, Louisiana, Tennessee and Alabama.

The Independent Tire Company, Columbus, Ohio, has doubled its floor space to care for its growing business. This company distributes besides Goodrich "Silvertown Cord" tires, Knight, Blackstone and Clingstone tires.

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American Rubber Patents

ISSUED AUGUST 19, 1919.

1,313,254—John W. Burgess and George F. Burgess, Kansas City, Mo. Tire.

1,313,286—John R. Gammeter, assignor to the B. F. Goodrich Co., Akron, O. Method of making cord tires and tire-making cord band therefor.

1,313,368—Paul Cesen, Cleveland, O. Tire chain fastening device.

1,313,410—Harry E. Mortimer, St. Louis, Mo. Device for applying tire chains.

1,313,424—Harry H. Stern, Moscow, Idaho. Tire.

1,313,465—Claude W. Buckley, Memphis, Tenn. Mud-shoe for vehicle tires.

1,313,493—Charles W. Lokey, Birmingham, Ala. Leak detector for pneumatic tire valves.

1,313,506—Marcus Areatas Kossuth Shotwell, Miami, Fla. Tire.

1,314,145—Charles Moss, New York, N. Y. Non-skid and armor device for automobile tires.

1,314,256—William C. Ehrenfeld, Flemington, N. J. Tube connecting and vulcanizing means.

1,314,337—Eugene I. Kimmey, Syracuse, N. Y. Resilient wheel.

1,314,343—Jeremiah L. Mahoney, New Haven, Conn. Jointure for vulcanized rubber parts.

1,314,344—Jeremiah L. Mahoney, New Haven, Conn. Mold for vulcanizing rubber articles.

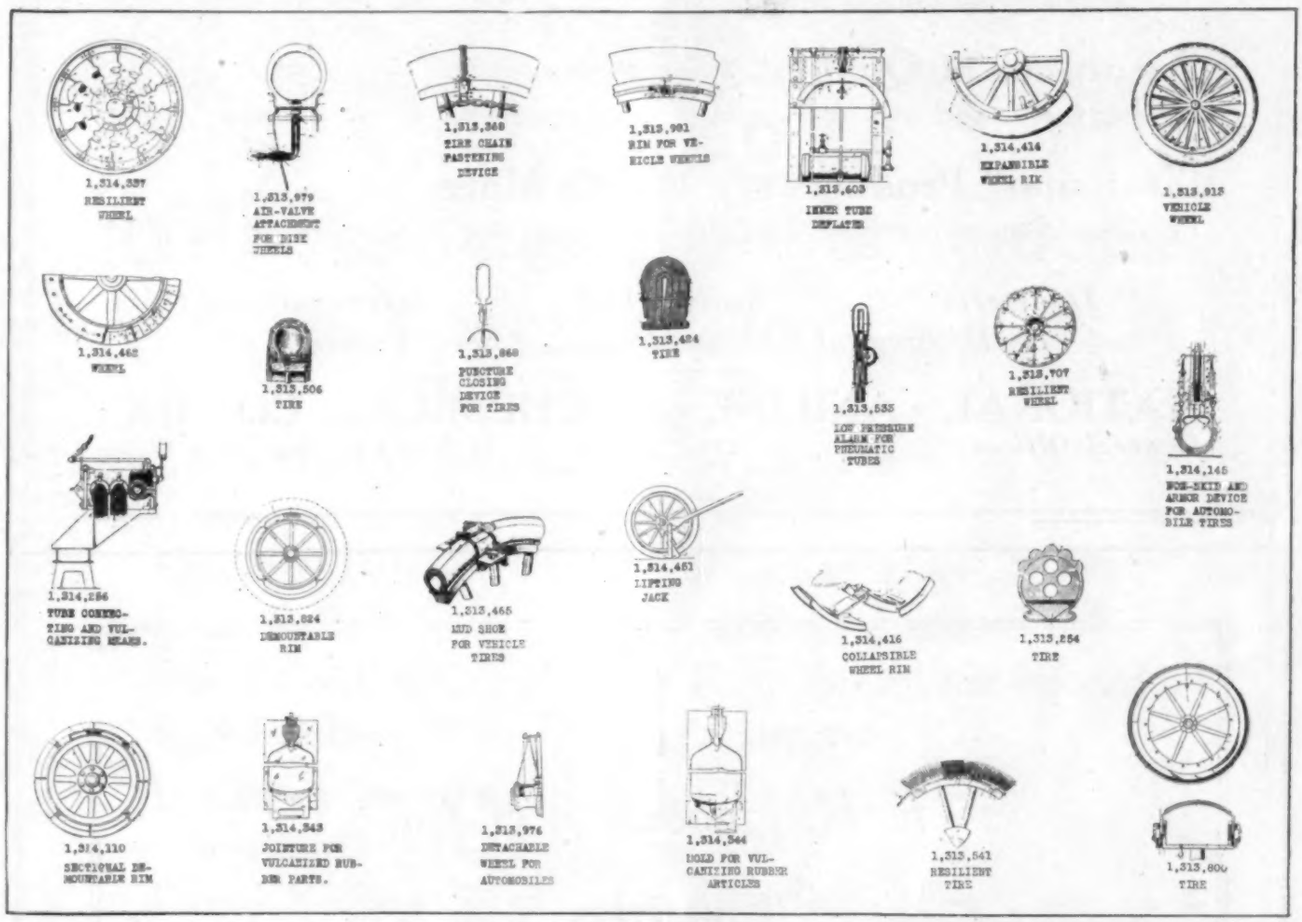
1,314,393—Danus D. Granger, New London, O. Rubber heel.

1,314,414—Joseph H. M. Michon, Washington, D. C. Expansible wheel rim.

1,314,415—Joseph H. M. Michon, Washington, D. C. Collapsible wheel rim.

A. B. Rittman has been appointed manager of the Quality Tire & Gasoline Company, Sixteenth and Main streets, Wheeling, W. Va. Mr. Rittman was formerly connected with the Ajax, the Globe and the United States tire companies. Before going to Wheeling he was in charge of the service department at the Pittsburgh, Pa., branch of the Brunswick-Balke-Collender Company, Chicago, Ill. One of Mr. Rittman's assistants in his new position is C. W. McGinnis, formerly manager of the International Rubber Sales Company, Wheeling, W. Va.

The Ayers Company has installed a tire repair and vulcanizing equipment in its new quarters at 209 Ottawa avenue, Grand Rapids, Mich.


1,314,337 RESILIENT WHEEL
1,313,979 AIR-VALVE ATTACHMENT FOR DISK WHEELS
1,313,369 TIRE CHAIN FASTENING DEVICE
1,313,901 RIM FOR VEHICLE WHEELS
1,313,603 INNER TUBE DEFLATER
1,314,414 EXPANSIBLE WHEEL RIM
1,313,913 VEHICLE WHEEL
1,314,462 WHEEL
1,313,506 TIRE
1,313,869 PUNCTURE CLOSING DEVICE FOR TIRES
1,313,424 TIRE
1,313,535 LOW PRESSURE ALARM FOR PNEUMATIC TUBES
1,313,707 RESILIENT WHEEL
1,314,145 NON-SKID AND ARMOR DEVICE FOR AUTOMOBILE TIRES
1,314,256 TUBE CONNECTING AND VULCANIZING MEANS.
1,313,824 DEMOUNTABLE RIM
1,313,465 MUD SHOE FOR VEHICLE TIRES
1,314,451 LIFTING JACK
1,314,416 COLLAPSIBLE WHEEL RIM
1,313,254 TIRE
1,314,110 SECTIONAL DEMOUNTABLE RIM
1,314,343 JOINTURE FOR VULCANIZED RUBBER PARTS.
1,313,976 DETACHABLE WHEEL FOR AUTOMOBILES
1,314,344 MOLD FOR VULCANIZING RUBBER ARTICLES
1,313,541 RESILIENT TIRE
1,313,800 TIRE

1,313,533—William Andrew Harris, Greenville, S. C. Low-pressure alarm for pneumatic tubes.

1,313,541—John M. Jones, St. Joseph, Mo. Resilient tire.

1,313,603—Robert McClenathen, Cuyahoga Falls, Ohio. Inner tube deflater.

1,313,707—Terrience Lorence McKenna, Lindon, Colo. Resilient wheel.

1,313,749—Fred K. Small, Lisbon Falls, Me. Pneumatic Tire.

1,313,800—Veron Domke, Bremerton, Wash. Tire.

1,313,824—George Knowling, Jr., St. John, Newfoundland. Demountable rim.

1,313,868—Benjamin Urich, Milwaukee, Wis. Puncture closing device for tires.

ISSUED AUGUST 26, 1919

1,313,907—Jacob Petry, Pittsburgh, Pa. Method of making dental molds.

1,313,913—Henri D. Rey, Avarua, Island of Rarotonga, Cook Islands. Vehicle wheel.

1,313,976—Charles S. Ash, Buffalo, N. Y. Detachable wheel for automobiles.

1,313,979—Frank Bernardi, Stockton, Cal. Air-valve attachment for disk wheels.

1,313,981—Richard S. Bryant, Cleveland, O. Rim for vehicle wheels.

1,314,029—Charles L. Townsend, Norwood, O. Machine for trimming and finishing rubber gaskets and similar articles.

1,314,110—Joseph C. Youngblood, Atwood, Kans. Sectional Demountable Rim.

1,314,416—Joseph H. M. Michon, Washington, D. C. Collapsible wheel rim.

1,314,451—Lloyd E. Wilcox, Green, Kans. Lifting jack.

1,314,462—Herbert J. Breeze, Portland, Ore. Wheel.

With the Retail Trade

Charles H. Broadhurst has acquired the ownership of the Jas. S. Remick Co., 301 East Weber Avenue, Stockton, Cal., and has entered the jobbing field with a complete line of accessories. He will distribute Mohawk and "U. S." tires. A special solid tire service department with hydraulic press has been installed.

The Ideal Tire & Rubber Company, Cleveland, Ohio, has opened a branch in Kansas City, Mo., in charge of S. A. Thompson of Cleveland.

A long-felt want has been realized in Portland, Maine, by the opening, at Middle and Market Streets, of the garage and salesrooms of the Falmouth Garage & Tire Company, which are modern in every detail. This concern distributes Goodrich solid rubber truck tires.

The County Sales Corporation, is the name of a new tire service concern scheduled to begin business soon at Lindell and Grand Avenues, St. Louis, Mo. Three buildings have been leased and are being remodeled for the purpose of a finely equipped up-to-date tire and accessories store. The new company will handle the Knight tire in St. Louis city and county, also the Canton cord tire, the Blackstone tire and the Lincoln Highway tire.

The Norfolk Tire & Repair Company and the Nebraska Tire Company, Norfolk, Neb., have been purchased by J. W. Tannehill, and moved to new quarters at 712 Norfolk Avenue, that city. The name of the new consolidation is Tannehill's Tire Shop.

Charles C. Hirschy and George K. Brown organized the Co-operative Auto Sales Company, in Pipestone, Minn., which opened for business on February 1st, dealing in tires, automobile accessories, trucks, passenger cars and tractors.

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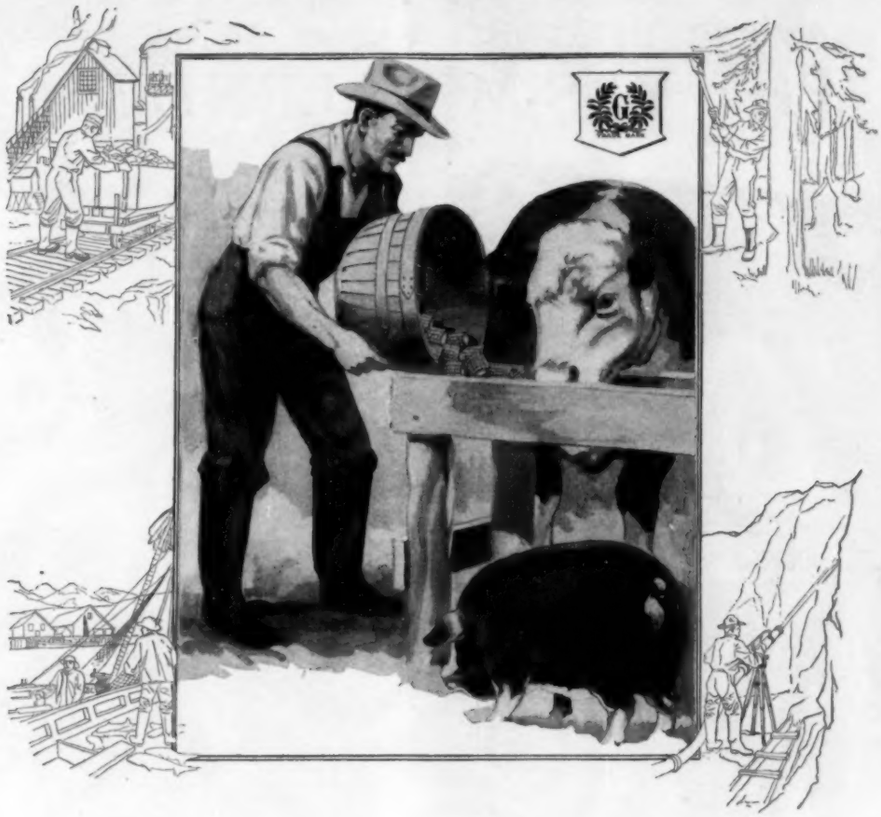

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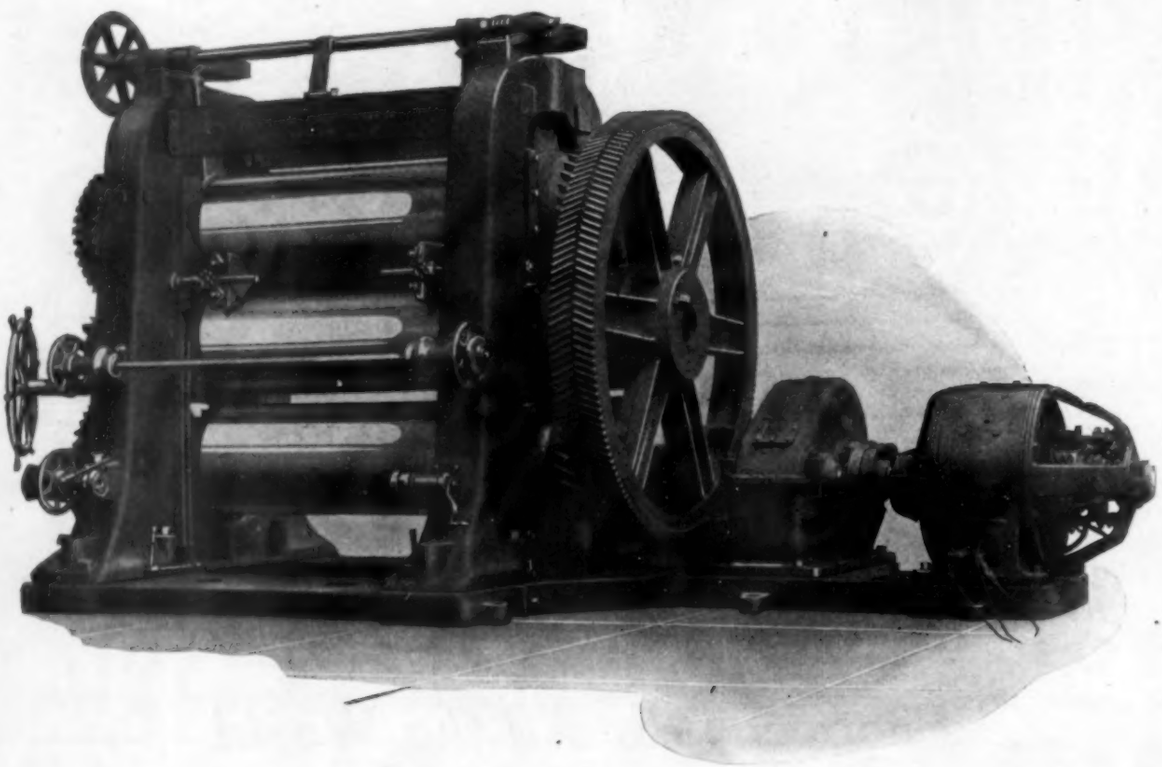

24″ x 66″ 3-Roll Calender—Front View

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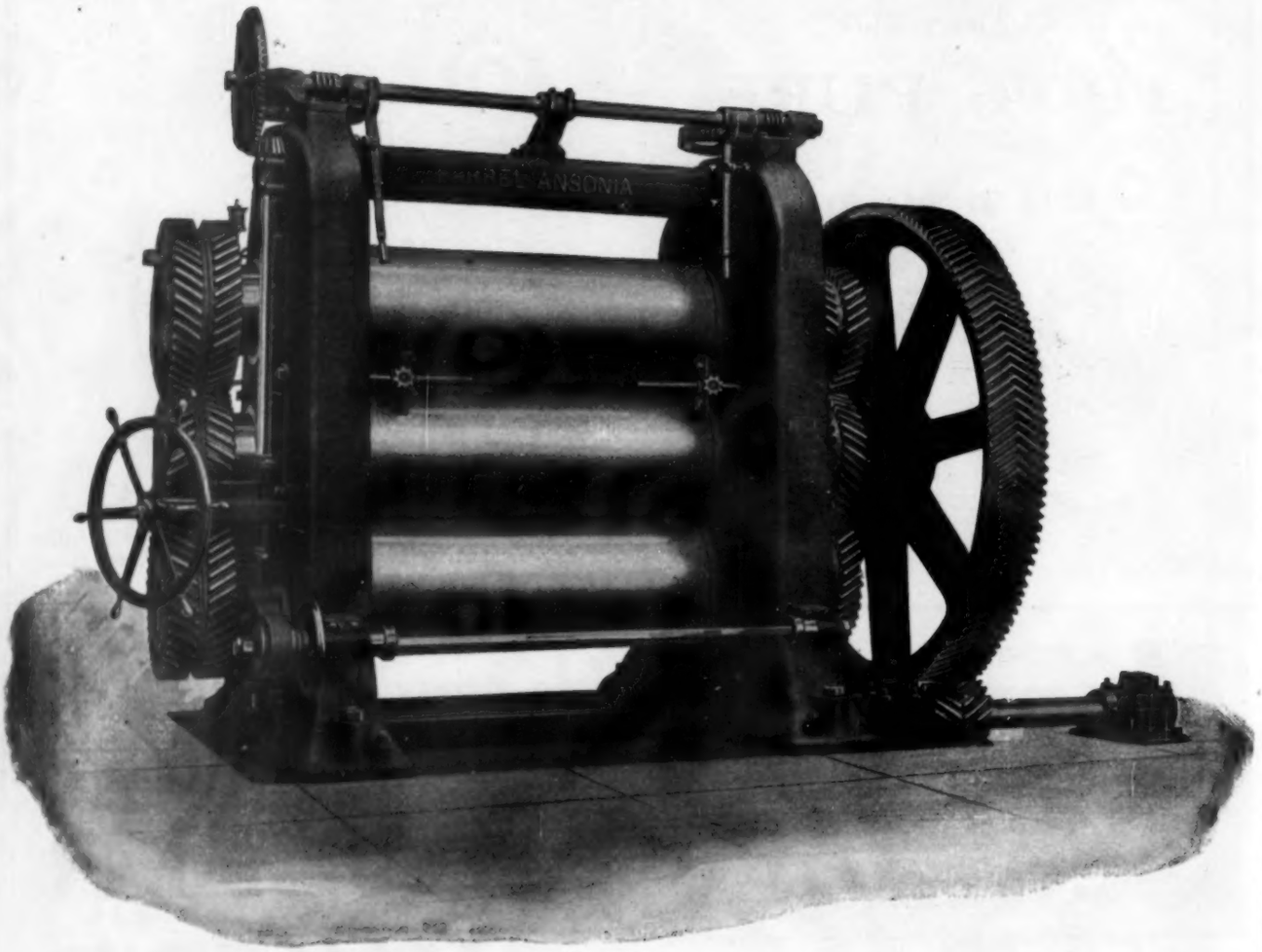

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